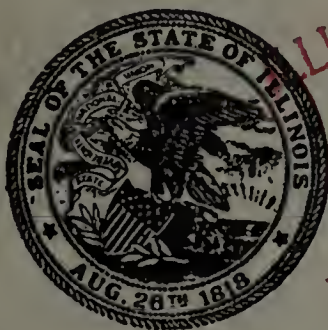


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STATE OF ILLINOIS

HENRY HORNER, Governor



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TWENTIETH ANNUAL REPORT OF DIVISION OF WATERWAYS

July 1, 1936 to June 30, 1937

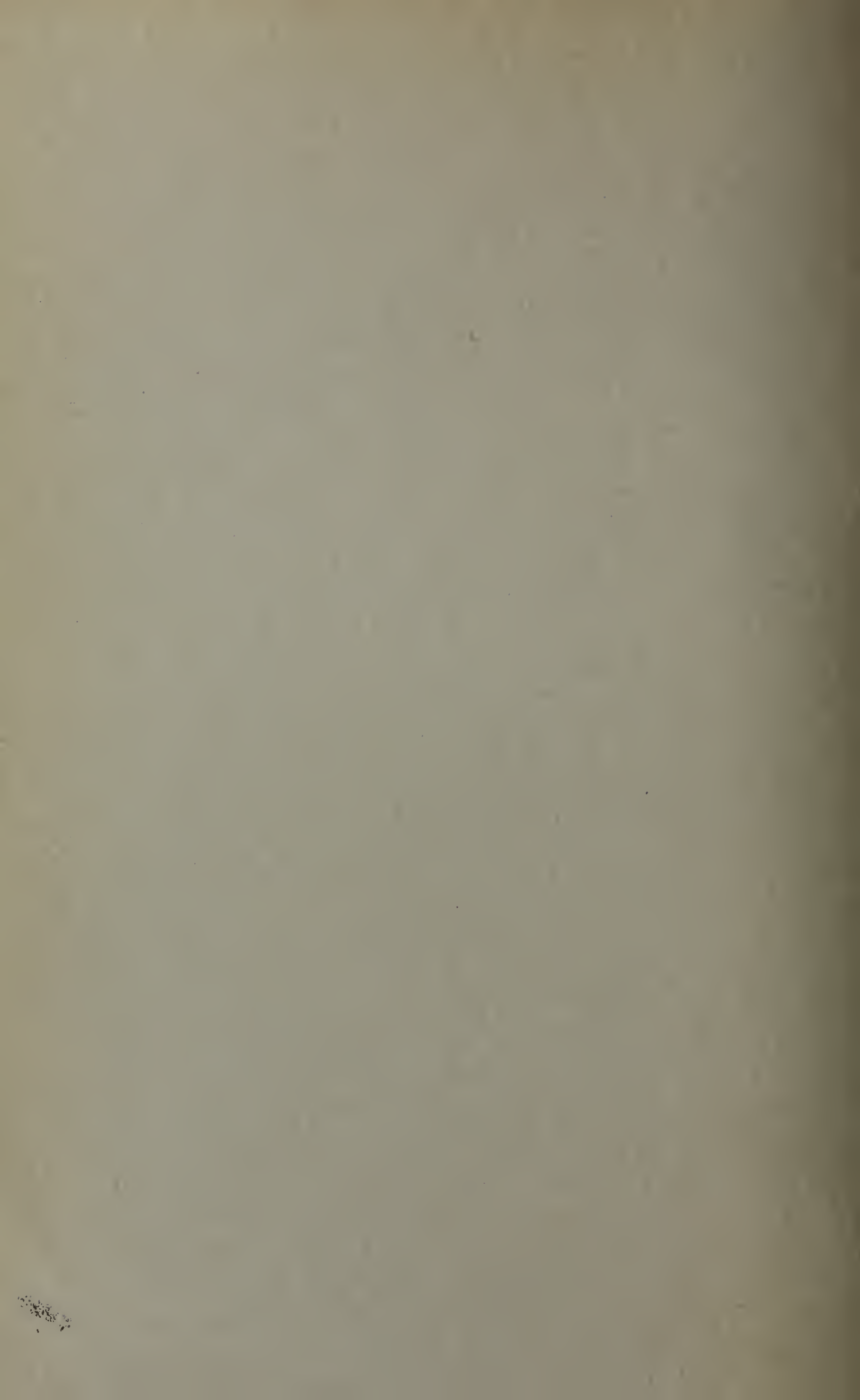


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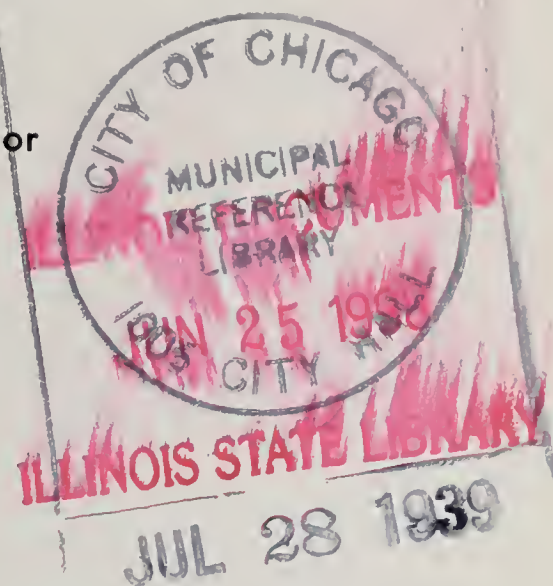
DIVISION OF WATERWAYS

DEPARTMENT OF PUBLIC
WORKS AND BUILDINGS

[Printed by authority of the State of Illinois]



STATE OF ILLINOIS
HENRY HORNER, Governor



TWENTIETH ANNUAL REPORT OF DIVISION OF WATERWAYS

July 1, 1936 to June 30, 1937



Issued by
DIVISION OF WATERWAYS
DEPARTMENT OF PUBLIC
WORKS AND BUILDINGS



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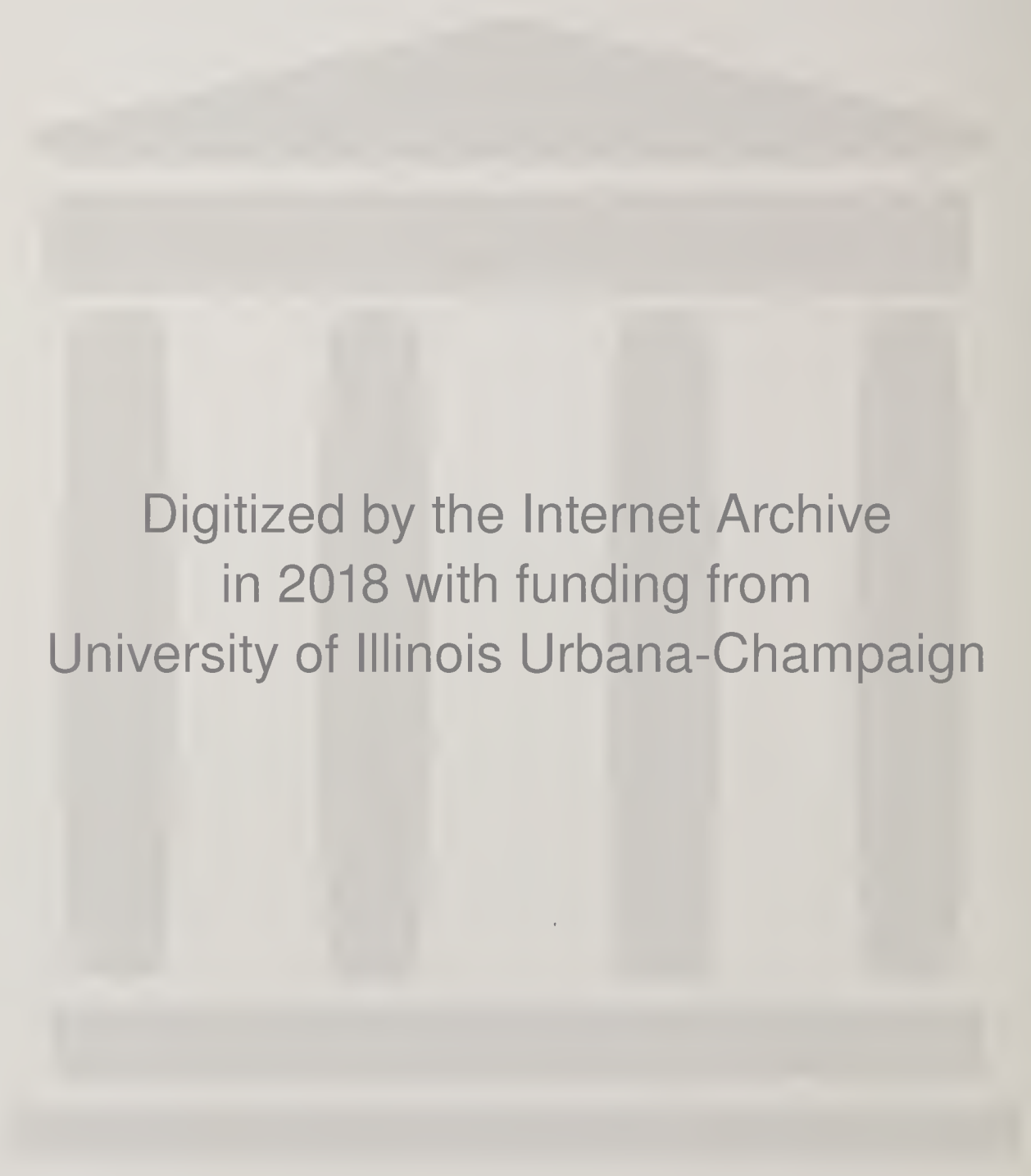
ADMINISTRATIVE OFFICERS OF THE DEPARTMENT OF
PUBLIC WORKS AND BUILDINGS, DIVISION OF
WATERWAYS, FOR THE FISCAL YEAR
JULY 1, 1936 TO JUNE 30, 1937

HENRY HORNER, Governor.
F. L. SMITH, Director.
CHAS. P. CASEY, Asst. Director.

DIVISION OF WATERWAYS.

WALTER M. SMITH, D. Sc., Chief Engineer.
M. V. AHLVIN, *Assistant* Chief Engineer.

THOS. B. CASEY, Chief of Bureau of Rivers and Lakes Control.
GUNNI JEPPESEN, Chief of Bureau of Maintenance and Operation.
FRANK S. BROWN, Chief of Bureau of Surveys and Investigations.
V. D. EHRINGER, Superintendent of Bureau of Illinois and Michigan Canal.
G. W. FLATTERY, Chief of Bureau of Audits.



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TABLE OF CONTENTS.

	PAGE
Resume of the years work by WALTER M. SMITH, D. Sc., <i>Chief Engineer</i> ...	9-30
The Flood of January, 1937, in the Ohio and Lower Mississippi River	
Basins	17-30
Engineering Activities by M. V. AHLVIN, <i>Assistant Chief Engineer</i>	31-38
Bureau of Bridge Maintenance and Operation by GUNNI JEPPESEN, <i>Chief</i> .	39-43
Bureau of Rivers and Lakes Control by THOS. B. CASEY, <i>Chief</i>	44-50
Chicago District	46
Northern District	47
Central District	48
Southern District	49
Bureau of Surveys and Investigations by FRANK S. BROWN, <i>Chief</i>	51-52
Bureau of Illinois and Michigan Canal by V. D. EHRINGER, <i>Superin-</i>	
<i>tendent</i>	53-77
Bureau of Audits and Accounts by G. W. FLATTERY, <i>Chief</i>	78-79

ILLUSTRATIONS

FIGURE	PAGE
1. Organization Chart	10
2. LaSalle or "Shippingsport" Bridge closed looking south.....	12
3. LaSalle or "Shippingsport" Bridge open looking upstream.....	12
4. Hardin or "Joe Page" Bridge closed looking downstream from the west	15
5. Views taken at Harrisburg during the February flood showing the heights reached. At the Big 4 Depot 5 blocks from the Public Square	18
6. Views taken at Harrisburg during the February flood showing the heights reached. At the intersection of State Routes 13 and 45....	18
7. View of Shawneetown looking north and east from 3rd South Cross and Market Streets taken on March 17, 1937 showing the results of the February flood.....	20
8. View of Shawneetown taken from 3rd Cross Street North and Locust Street on March 17, 1937 showing the results of the February flood	20
9. Rainfall for one day—January 21, 1937.....	22
10. Rainfall for two days—January 21-22, 1937.....	23
11. Rainfall for three days—January 21-23, 1937.....	24
12. Rainfall for four days—January 21-24, 1937.....	25
13. Rainfall for five days—January 21-25, 1937.....	26
14. Rainfall for ten days—January 16-25, 1937.....	27
15. Rainfall for the month—January, 1937.....	28
16. Rainfall for the month—December, 1936.....	29
17. Precipitation and River Stages for December, 1936 and for January, 1937	30
18. Map of flooded areas in Illinois—January-February, 1937.....	30
19. Views of Shawneetown taken on March 17, 1937 showing the results of the February flood.....	33
20. Views of Mound City taken on March 17, 1937 showing the results of the February flood.....	34
21. View showing the main working shaft of Sahara Mine at Harrisburg during the February flood.....	35
22. View showing the main shaft sand bagged at Peabody No. 43 mine at Harrisburg during the February flood.....	35
23. Sahara Shaft No. 2.....	36
24. Map of Harrisburg area.....	37
25. Map of Inspection Districts.....	45
26. Old Canal Boat "City of Pekin" which is to be restored.....	53
27. Widened towpath road near Dresden Lock.....	54
28. New Waste Gates above Lock No. 8.....	55
29. New Waste Gates below Lock No. 8.....	55
30. Nettle Creek Aqueduct Project.....	56
31. New Custodians Residence at Kankakee Feeder Area.....	57
32. New Service Building at Aux Sable.....	57
33. Repairing walls at Lock No. 7.....	59

FIGURE	PAGE
34. Lower Cofferdam at Lock No. 7.....	60
35. Cleaning out the Chamber of Lock No. 7.....	60
36. Removing Old Gates at Lock No. 7.....	61
37. Restoration work at Lock No. 8.....	61
38. Bridge over Waste Gate Structure Below Lock No. 8.....	62
39. Removing Deteriorated Stone Lock No. 8.....	62
40. Repair Work at Lock No. 8.....	63

WATERWAYS

WALTER M. SMITH,, D. Sc., *Chief Engineer.*

JURISDICTION OF THE DIVISION OF WATERWAYS.

The Department of Public Works and Buildings, being the successor to the Rivers and Lakes Commission, is vested with all the powers, duties and jurisdiction of said commission, especially as to the jurisdiction over all rivers and lakes in the State of Illinois; powers and duties of the former Illinois Waterway Commission as pertains to the construction, operation and maintenance of the Illinois Waterway and the development and utilization of the water power in connection therewith; and all the powers and duties of the former Illinois and Michigan Canal Commissioners pertaining to the control and management of the Illinois and Michigan Canal, the maintenance of navigability, and the lease of all canal lands.

The Division of Waterways of the Department of Public Works and Buildings is assigned the supervision of the execution of all those powers and duties above mentioned. The Division of Waterways is in like manner the custodian of the Illinois Waterway and the Illinois and Michigan Canal, and has charge of the operation and maintenance of all operating machinery of the movable bridges along the waterway owned by the State of Illinois.

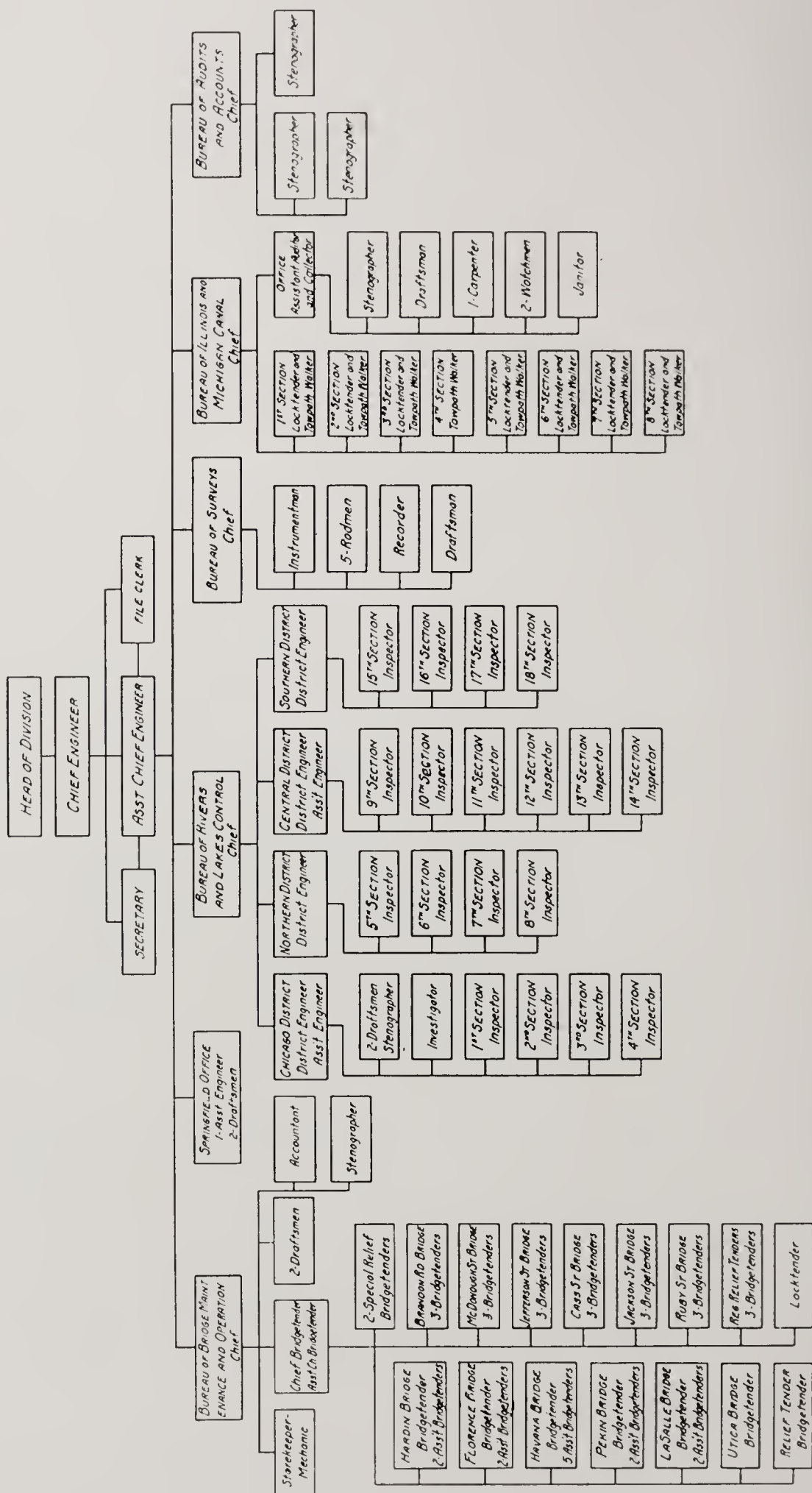
The Statutes provide that application be made to the Department of Public Works and Buildings for permits for the construction of any structures, or work of any kind, in any of the streams or public bodies of water of the State, and a permit signed by the Director of the Department of Public Works and Buildings received before construction is started. All such applications are investigated by the Division of Waterways and recommendations concerning the same made to the Director before the permits are acted upon.

ORGANIZATION OF THE DIVISION.

During the year, the organization of the Division of Waterways remained very nearly the same as for the preceeding year.

The organization chart is shown on the following page:

ORGANIZATION CHART
DIVISION OF WATERWAYS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
STATE OF ILLINOIS



APPROPRIATIONS FOR BIENNIUM JULY 1, 1935 TO
JUNE 30, 1937.

The following appropriations were made by the Fifty-ninth General Assembly during the year 1935 to carry on the work on the Division of Waterways for the biennium beginning July 1, 1935:

For Office Expenses	\$ 10,000.00
For Travel Expenses	10,000.00
For repairs and equipment	500.00
For engineering services and expenses	35,000.00
For services and expenses in investigation and preventing obstructions in or dumping garbage, waste and refuse matter in, upon or along the shores of rivers, streams, or other bodies of water in this State in such manner as to make it possible for the same to be washed into such stream or other body of water in time of flood or high water levels.....	32,000.00
For services and expenses in the survey of State land and meandered waters, and in the investigations of complaints of encroachments and pollutions, and in investigations for the reclamation and protection of the lands and property of the State of Illinois	30,000.00
For Salaries and Wages, office expenses, travel, operation, repairs, equipment and permanent improvements necessary for the operation and maintenance of the Illinois and Michigan Canal, payable only out of such funds or monies as shall be covered into the State Treasury and placed by the State Treasurer to the credit of the special fund known as the Illinois and Michigan Canal Fund....	50,000.00
For the construction of the Illinois Waterway and its appurtenances, whether by contract or by direct employment of services, labor, materials and equipment, and for the payment for property taken or damaged in the construction, operation, or maintenance of the Illinois Waterway and its appurtenances; the repair, replacement or reconstruction of existing drainage or sewer system which will be destroyed or materially interfered with in the construction of the Illinois Waterway and the appurtenances in accordance with the provision of "An Act in relation to the construction, operation and maintenance of a deep waterway from the water power plant of the Sanitary District of Chicago at or near Lockport, to a point in the Illinois River at or near Utica, and for the development and Utilization of the water power thereof," approved June 17, 1919, payable from the Waterway Fund	75,000.00
For all work necessary for the maintenance of navigation and structures on all Illinois rivers under the Department of Public Works and Buildings.....	275,000.00
For flood relief and rivers and lakes control to be expended either in cooperation with the United States Government or agencies thereof and political subdivisions of the State or otherwise; total for flood relief.....	500,000.00
Total appropriations	\$ 1,017,500.00
For flood relief work reappropriated under Senate Bill No. 566.....	46,256.83
Grand Total	\$ 1,063,756.83
Expenditures for year July 1, 1935 to June 30, 1936.....	\$ 290,104.50
Amount remaining for year July 1, 1936 to June 30, 1937.....	773,652.33
Expenditures for year July 1, 1936 to June 30, 1937.....	522,998.41
Unexpended balance June 30, 1937.....	250,653.93

BUREAU OF BRIDGE MAINTENANCE AND OPERATION.

At the end of the year the Division of Waterways was operating the following movable bridges:

Name.	Location.	Type.
Ruby Street.....	Joliet.....	Trunnion Bascule
Jackson Street.....	Joliet.....	Rolling Lift Bascule
Cass Street.....	Joliet.....	Rolling Lift Bascule
Jefferson Street.....	Joliet.....	Rolling Lift Bascule
McDonough Street.....	Joliet.....	Rolling Lift Bascule
Brandon Road.....	Near Joliet.....	Trunnion Bascule
Utica.....	Near Utica.....	Rim Bearing Swing
Shippingsport.....	Near LaSalle.....	Vertical Lift
Pekin.....	Pekin.....	Vertical Lift
Havana.....	Havana.....	Rim Bearing Swing
Florence.....	Florence.....	Vertical Lift
Joe Page.....	Hardin.....	Vertical Lift
Torrence Ave.....	Little Calumet River, Chicago.....	Bascule
Lemont.....	Lemont Main Channel Sanitary Dist.	Bob tail swing
Romeo.....	Romeo Main Channel Sanitary Dist.	Bob tail swing



Figure No. 2. LaSalle or "Shippingsport" Bridge closed looking south.



Figure 3. LaSalle or "Shippingsport" Bridge open looking upstream.

The last three bridges are not yet operated regularly as, up to the present time, the vertical clearance has been sufficient, as fixed bridges. Whenever the War Department deems it necessary, operators will be placed on these bridges and they will be operated regularly.

In addition, the Division of Waterways has charge of the following fixed bridges which were constructed by this division :

Name.	Location.	Type.
Smith's.....	Channahon.....	Steel Through Truss
Marseilles Canal.....	Marseilles.....	Steel Through Truss
Marseilles River.....	Marseilles.....	Steel Through Truss
Hilliard.....	Ottawa.....	Cantilever

More information about these bridges will be found in reports of Mr. M. V. Ahlvin, Assistant Chief Engineer and Mr. Gunni Jeppesen, Bridge Maintenance Engineer.

Analysis of Cost of The Illinois Waterway:

A summary of the cost of the Illinois Waterway showing just how the proceeds from the twenty million dollar (\$20,000,000) bond issue, voted by the people of Illinois, were spent is given in the report of Mr. M. V. Ahlvin, Assistant Chief Engineer.

Traffic on the Illinois Waterway:

Traffic on the Illinois Waterway is increasing very rapidly according to statistics of the U. S. Engineer Department.

By the term “Illinois Waterway” is now meant the entire Illinois River from Grafton at the mouth of the Illinois River to Lake Street in Chicago on the Chicago River and to Turning Basin No. 5 on the Calumet River.

TRAFFIC.

Year.	Tons	Value.	Passengers.
1935	1, 584, 428	\$48, 710, 394	288, 373
1936	2, 048. 057	54, 725, 585	205, 820
* 1937	* 3, 575, 000	* \$65, 604, 000	207, 600

ADDITIONAL TRAFFIC.

Year.	General Tons	Ferry Value	Lighterage Tons	(Chicago River) Value
1935	14, 159	\$ 971, 320	110, 692	\$21, 584, 940
1936	15, 357	1, 032, 308	123, 317	61, 558, 500
* 1937	* 12, 475	1, 067, 285	115, 222	55, 111, 000

It will be seen that the traffic on the Illinois Waterway is increasing very rapidly. The price for coal is quoted in Chicago at 70c per ton less when brought by water than when brought by rail.

* These amounts are estimated for the entire year based on the results for the first half of the calendar year.

From the statistics for the first half of the calendar year 1937 the commerce for the entire year will probably exceed that for the calendar year 1936 by about 1,527,000 tons or 75%. Should this ratio of gain of the last year be kept up, the capacity of the present canal will be reached by the end of the calendar year 1939.

Bureau of Bridge Maintenance and Operation:

The work of this Bureau was continued throughout the fiscal year under the direction of Mr. Gunni Jeppesen, Maintenance Engineer.

The great increase in traffic on the Waterway during this year is shown by the fact that the number of bridge openings required was 8,031 compared to only 5,492 in the previous year.

Contracts:

The following contracts were let for repairs and new construction:

M-7 Power Equipment Machinery and Housings, Utica Swing Bridge, to Roy W. Christy of Decatur, Illinois, January 15, 1937. The contract is practically completed except for final payment.

M-8 Electrical Equipment, LaSalle Bridge, to Central States Electric Construction Company of Chicago, Illinois, on April 20, 1937 and is about 50% completed.

M-9 Fenders and Pile Clusters, Florence and Hardin Bridges, to Curtis Logsdon and Sons of Beardstown, Illinois, on June 17, 1937. No work done on this contract.

M-11 Repairs to Fenders and Pile Clusters, LaSalle Bridge to Harry A. Thompson of Chicago, Illinois, on May 6, 1937. Ninety per cent of the work on this contract is completed.

Further details of the work of this Bureau will be found in the report of Mr. Gunni Jeppesen, head of the Bureau, which report also shows several pictures of the vertical lift bridges.

Bureau of Rivers and Lakes Control:

As Mr. W. G. Potter, for many years Chief of this Bureau, had resigned at the end of the previous year, Mr. Thomas B. Casey was appointed to succeed him and took over the duties on the first of the year.

It was found that the work of the Northern District as formerly designated was very heavy and, therefore it was divided into the new Northern District and Chicago District.

A Chart of the organization of this bureau will be found in Mr. Casey's report.

There were 240 investigations and recommendations made for the issuance of formal permits, and 8 formal hearings on applications for permits were held.

The principal construction work of this bureau consisted of dredging channels in Fox-Chain-of-Lakes and weed cutting in channels not dredged.

Removing rock shoal in Little Calumet River near Roll Ave., Chicago.

Dredging in Little Calumet River from Indiana-Illinois State line westward.

A detailed account of the work of this Bureau will be found in Mr. Casey's Report.

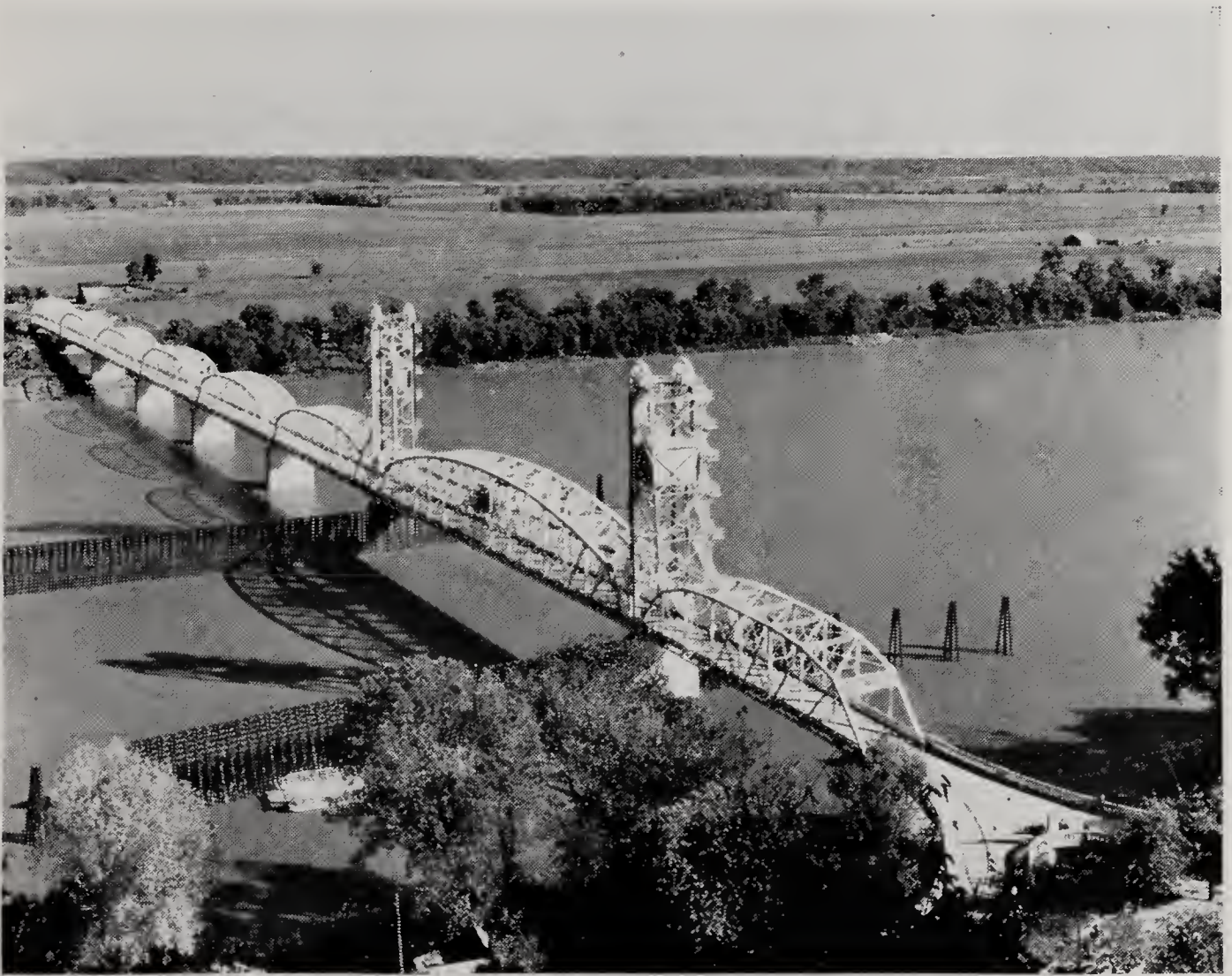


Figure No. 4. Hardin or "JoePage" Bridge closed looking downstream from the west.

Bureau of Surveys and Investigations:

This Bureau has made many surveys on various rivers and lakes of the State. An account of these surveys and investigations will be found in the report of Mr. Frank S. Brown, in charge of this Bureau.

Bureau of Illinois and Michigan Canal:

The work of this Bureau was continued under Mr. V. D. Ehringer, Superintendent.

A very complete account of the work done by this bureau will be found in the report of Mr. Ehringer.

Bureau of Audits and Accounts:

The work of this bureau was continued under Mr. G. W. Flattery as Chief and a complete financial statement will be found in his report.

THE FLOOD OF JANUARY 1937 IN THE OHIO AND LOWER MISSISSIPPI RIVER BASINS

By WALTER M. SMITH, D. Sc.

After the occurrence of the flood in the Ohio and Lower Mississippi River basins in January of 1937, it was thought desirable by the Division of Waterways that a thorough study be made of this flood.

The figures 9 to 13 inclusive show the records of the rainfall for one, two, three, four and five days duration for January 21 to January 24, inclusive. It will be noted that for the storms of one day duration, intense rainfall occurred for a distance of approximately 300 miles either way from the junction of the Mississippi and Ohio Rivers. It will also be seen that there is an increase of nearly four inches in the maximum intensity in the storms of five day duration over those of three day duration.

By referring to Fig. 14, which is a record for ten days in the storm of January 1937, being for the five days preceeding the five-day period shown in Figs. 11 to 15 and including these five days, it will be seen for the ten day period the storm extended over about one-half of the United States east of the Mississippi River and a considerable area west of that river south of Missouri. Also, that from two to four inches of rain had fallen over a considerable portion of this area in five days from January 16 to 20th inclusive.

By referring to Fig. 15, which is a record for the entire month of January, it will be seen that the rainfall over the entire portion of the United States east of the Mississippi River, except the states of Wisconsin and Florida, and a considerable portion also west of the Mississippi River in the south varies from four to twenty-three inches or approximately one-half the average annual rainfall over a great deal of the area.

By referring to Fig. 16, which is a record of the month of December 1936, with the rainfall for this month added to that of January 1937, gives a rainfall of from 20 to 30 inches for the two months over an enormous area.

The writer is of the opinion that no such rainfall as in this storm has ever previously occurred in the United States over such an extensive area, for either a three, five, ten, thirty-one or sixty-two day period.

In Fig. 17 are shown the actual rainfall records and river stages at various points in Mississippi, Illinois, Ohio, Tennessee, Cumberland and Wabash river basins for months of December, 1936 and January,



Figure No. 5. Big 4 Depot at Harrisburg 5 blocks east of the public square taken during the Spring flood of 1937.



Figure No. 6. Views taken at Harrisburg during the February flood showing the heights reached. At the intersection of State Routes 13 and 45.

1937. Some of the rainfalls shown here are almost unbelievable. Cairo, Illinois had 16.23 inches for January; 20.22 inches for January and December; Memphis had 19.94 inches for January and 26.94 inches for the two months; Louisville had 18.97 inches for January and 21.69 inches for the two months; Johnsonville, Tennessee had 25.8 inches for January and 30.52 inches for the two months; Nashville had 16.42 inches for January and 21.04 inches for the two months; Mt. Carmel had 13.73 inches for January and 17.82 inches for the two months.

Fig. 18 shows the amount of land under water in the southern tip of Illinois at the peak of the recent flood. The situation in this region during high flood in Ohio or Mississippi River is peculiar. A few miles below Golconda where Bay Creek enters the Ohio River a broad valley begins and runs westerly across to the Mississippi River with very little change in the general elevation. This valley at some time in the distant past was evidently the bed of the Ohio River. The fact that the present bed of the Ohio at the junction is very much below the level of this valley, indicates that it was ages ago. When the Ohio River rises very materially the surface of the water is above this valley floor and if the Mississippi River is not in flood also, as in January, 1937, a large volume of water passes from the Ohio to the Mississippi through this valley, a distance of about 55 miles, and flows under a trestle on Illinois Highway No. 150 and into the Mississippi River.

The writer passed over this trestle at the peak of the January flood of this year and there was a difference of level of water on the two sides of this bridge of apparently about two feet. Consequently, the velocity of the water through the opening was very great.

There are two streams entering this valley from the hilly county, Bay Creek to the east and Cache River to the west about midway between the Ohio and Mississippi rivers. Bay Creek turns easterly and Cache River westerly. In ages past, since the Ohio opened a new channel by Paducah, Metropolis and Cairo, Bay Creek has gradually brought down material through the ages and built up a valley floor so that it now enters the valley at its highest point, and in consequence when in flood, although a levee has been constructed along the west bank, it frequently breaks through, a part of the water flowing to the east and a part to the west.

Cache River enters the valley and flows westerly then southerly and when one mile from the Mississippi River turns southeasterly and enters the Ohio River between Mound City and Cairo.

In consequence of this valley to the north of Cairo, when the Ohio River reaches a certain stage, Cairo and territory to the north for several miles become an island, and it has to have very high levees on all sides to protect it from inundation. This makes the territory within the City of Cairo especially subject to sandboils. The writer was in Cairo at the peak of the recent January, 1937 flood to observe these sandboils. There was one entire block in which the sandboils deposited fine sand over almost the entire area and all of

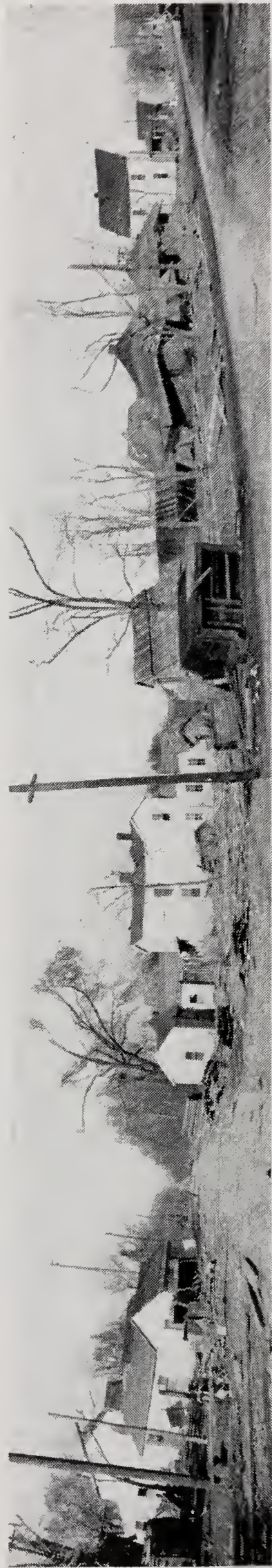


Figure No. 7. Shawneetown, Ill., March 17, 1937. View looking north and east from the intersection of 3rd South Cross St. and Market St. Damage to buildings caused by high water on the Ohio River of February, 1937.



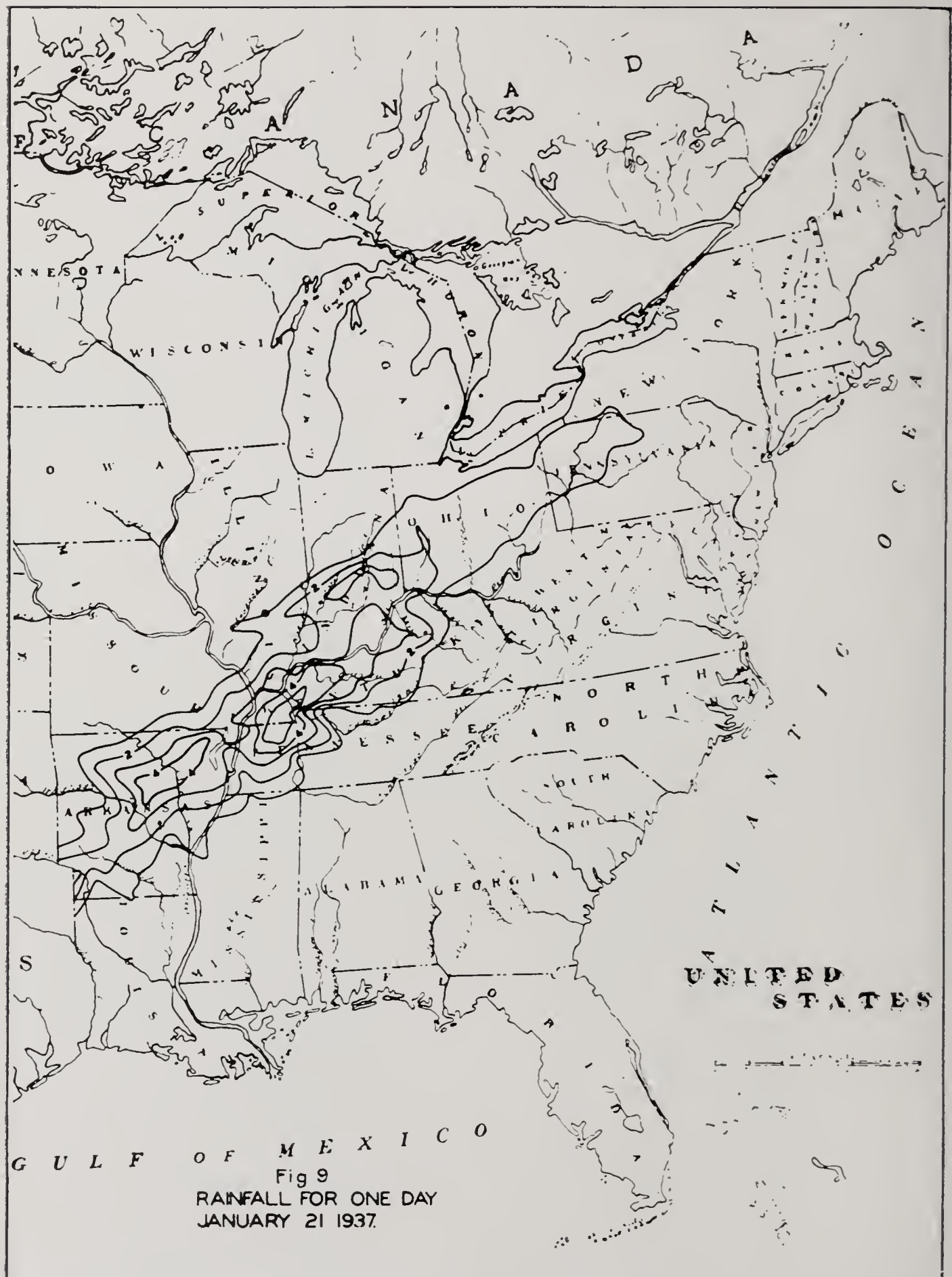
Figure No. 8. Shawneetown, Ill., March 17, 1937. Damage to residences and scattering of debris was caused by high water on the Ohio River, February, 1937. Views taken near 3rd Cross St., N. and Locust St.

the buildings on this block were left in all kinds of topsy-turvy positions, due to the settlement varying very much. The street along one side of this block had a sandboil discharging a volume of water several inches in diameter at the height of the flood. Sandboils occurred at various places throughout this city where they have been noticed in times past in all floods of any great magnitude, but not anything like the strength of these in this recent flood. Streets settled as much as five feet in places.

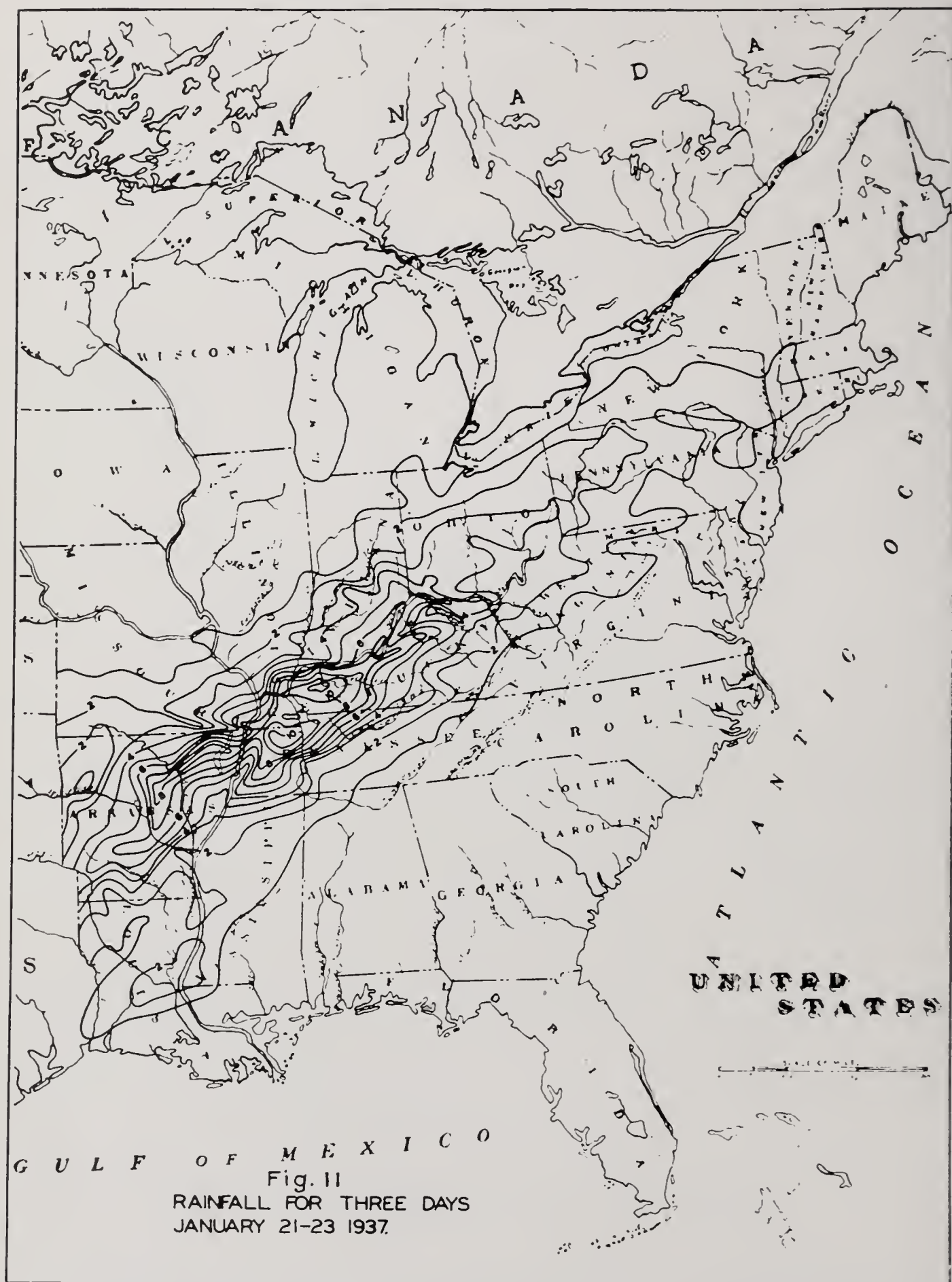
Some sandboils appeared at the foot of the levees on both the Ohio and Mississippi levees, but were controlled by sandbag enclosures around them so they did not cause any great subsidence in the levees and only over a very small area. There is one very significant fact that was brought to light in the study of these sandboils made by the State Water Survey. The composition of the water coming from the sandboils was entirely different from that in the rivers. Therefore, it was apparent that these sandboils were caused by water coming underneath the city, and having been shut off from entering the rivers by the high waters, broke through the light crust over the stratum carrying the water in the City of Cairo and discharged its water there.

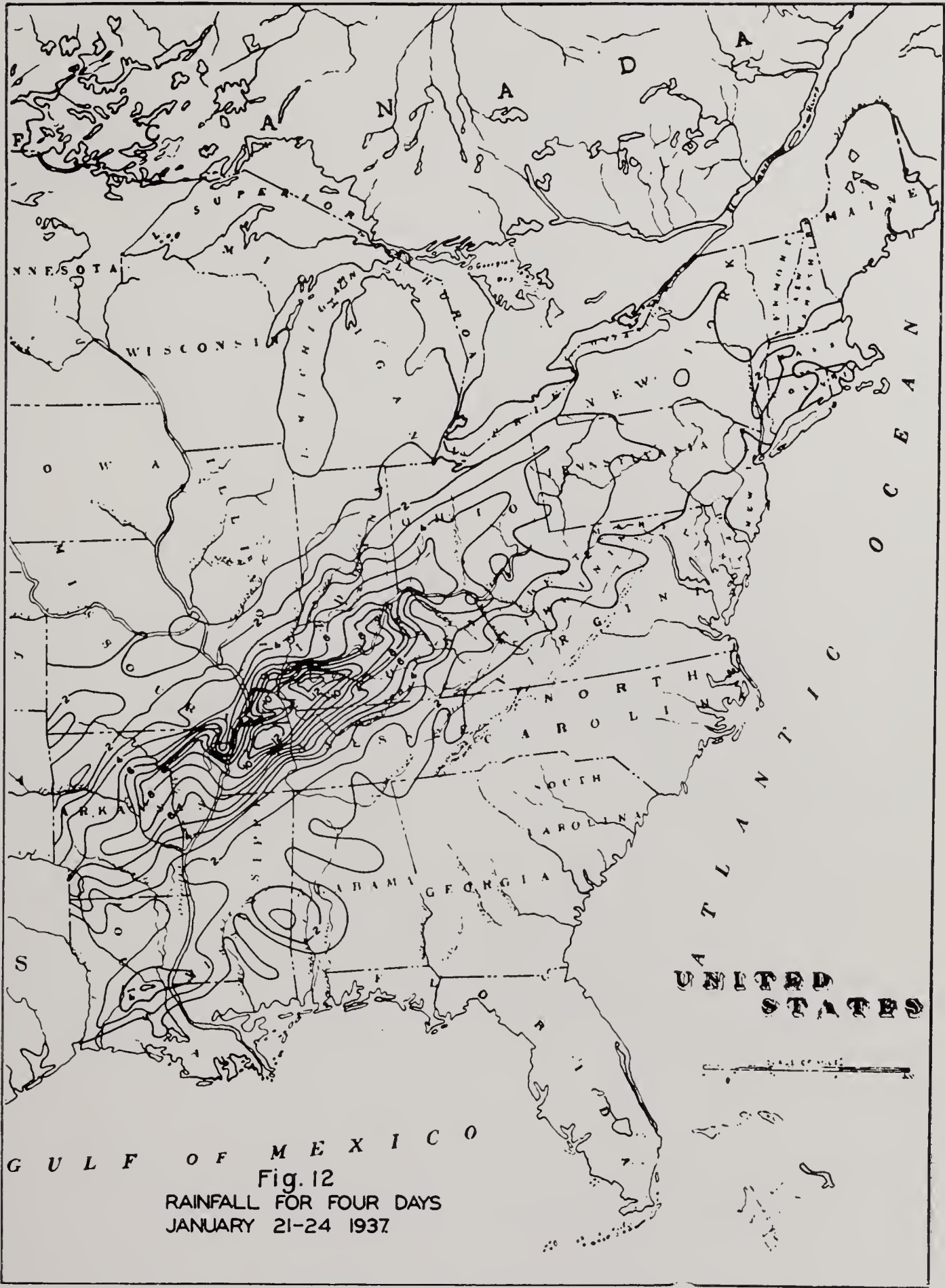
In the two sandboils, however, at the foot of the levee at the Mississippi River, the water varied quite materially, varying about 50% characteristic of river water and 50% of the other water, and it would appear at this point some water was coming from the river to mingle with that coming through the sub-surface stratum from the north of the City.

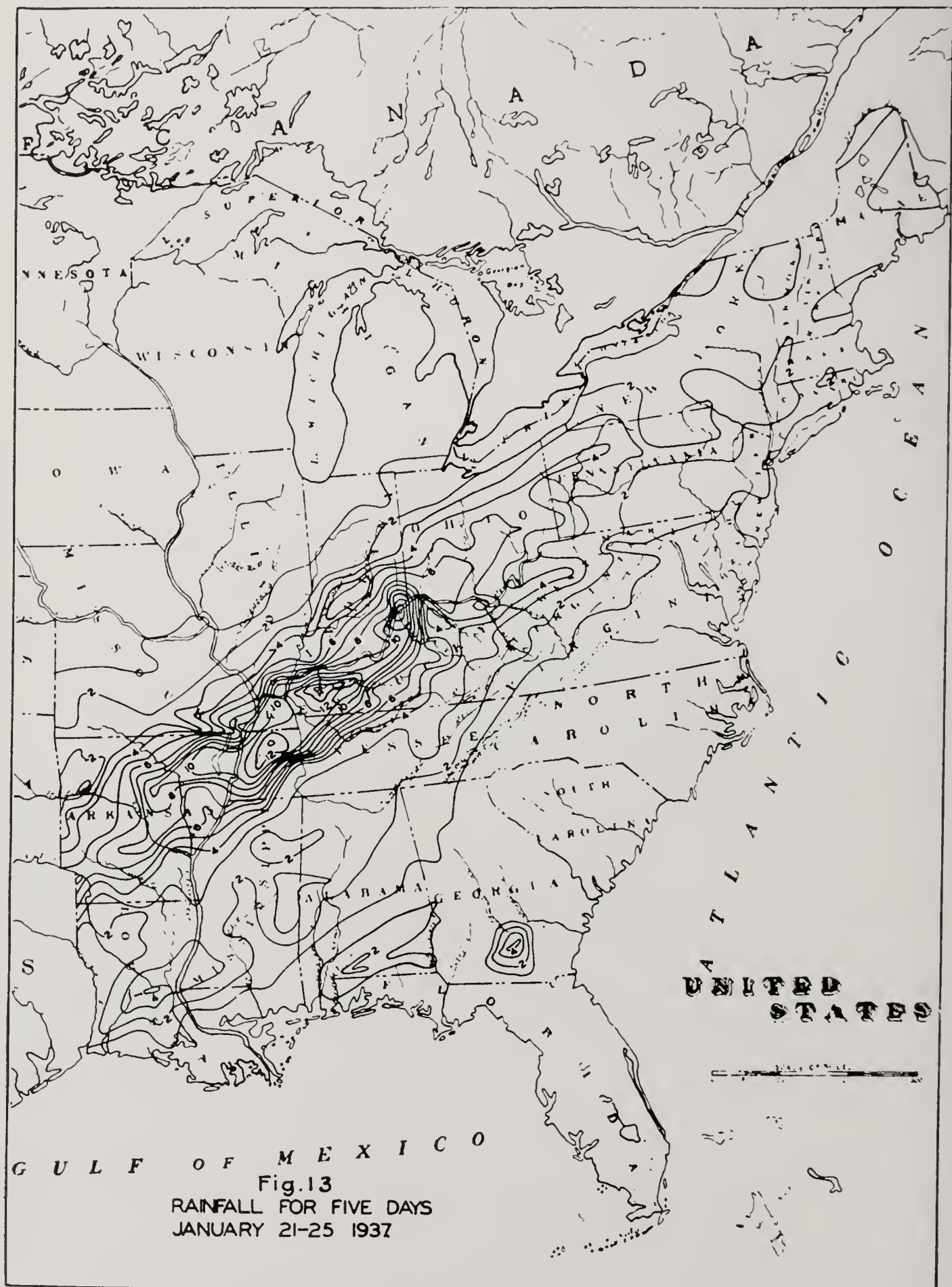
I am not familiar with any other cases where a like study has been made and it may be possible this is characteristic of water from sandboils. In other words the water from the sandboils may be coming from the land side and not from the river.

















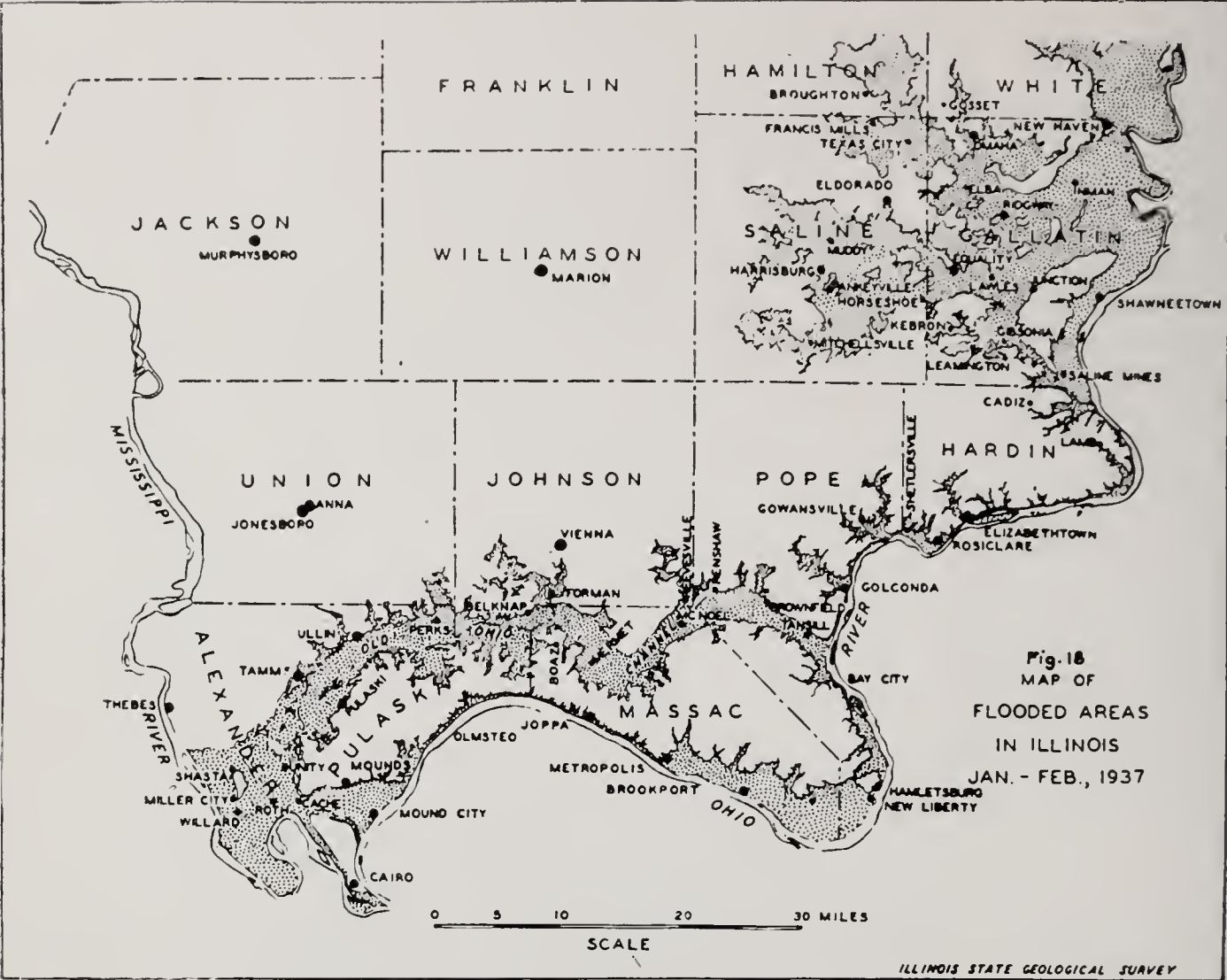


Figure No. 17.

Table 1. Results of the first round of the survey		Table 2. Results of the second round of the survey	
Question	Answer	Question	Answer
1. What is the main reason for the decline in the number of people using the service?	1. Lack of information about the service	1. What is the main reason for the decline in the number of people using the service?	1. Lack of information about the service
2. How can we improve the service?	2. Increase the number of service points	2. How can we improve the service?	2. Increase the number of service points
3. What are the most common problems faced by users?	3. Long waiting times	3. What are the most common problems faced by users?	3. Long waiting times
4. How can we reduce waiting times?	4. Hire more staff	4. How can we reduce waiting times?	4. Hire more staff
5. What are the most common complaints from users?	5. Poor quality of service	5. What are the most common complaints from users?	5. Poor quality of service
6. How can we improve the quality of service?	6. Provide training for staff	6. How can we improve the quality of service?	6. Provide training for staff
7. What are the most common suggestions from users?	7. Introduce a new service	7. What are the most common suggestions from users?	7. Introduce a new service
8. How can we implement the suggestions?	8. Conduct a feasibility study	8. How can we implement the suggestions?	8. Conduct a feasibility study

PRECIPITATION AND RIVER STAGES FOR DECEMBER 1936.

MISSISSIPPI RIVER																		ILLINOIS RIVER				OHIO RIVER										TENNESSEE RIVER										CUMBERLAND		WABASH RIVER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Davenport, Iowa Zero Gage MSL 542.50				Grafton, Ill. Zero Gage MSL 403.79				St. Louis, Mo. Zero Gage MSL 379.00				Chester, Ill. Zero Gage MSL 341.02				Cape Girardeau, Mo. Zero Gage MSL 304.76				Cairo, Ill. Zero Gage MSL 270.58				Memphis, Tenn. Zero Gage MSL 183.91				Vicksburg, Miss. Zero Gage MSL 46.16				New Orleans, La. Zero Gage MSL --- 14				Peoria, Ill. Zero Gage MSL 428.39				Dam 52, Brookport, Ill. Zero Gage MSL 283.3				Evansville, Ind. Zero Gage MSL 329.21				Louisville, Ky. Zero Gage MSL 403.0				Cincinnati, Ohio Zero Gage MSL 429.70				Parkersburg, W. Va. Zero Gage MSL 561.87				Pittsburgh, Penna. Zero Gage MSL 094.15				Johnsonville, Tenn. Zero Gage MSL 320.10				Florence, Ala. Zero Gage MSL 401.12				Chattanooga, Tenn. Zero Gage MSL 021.09				Nashville, Tenn. Zero Gage MSL 368.06				Mt. Carmel, Ill. Zero Gage MSL 371.64																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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PRECIPITATION AND RIVER STAGES FOR JANUARY.

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ENGINEERING ACTIVITIES

M. V. AHLVIN, *Assistant Chief Engineer.*

ILLINOIS WATERWAY.

Since the completion of the Illinois Waterway, on several occasions, questions of cost of various parts of the project have arisen and it was decided to summarize the various units of cost under project headings. This involved the tabulating of every expenditure and a reconciliation of the various audits which had been made from time to time. The following is the result, a summary showing participations from outside interests and credits accruing from sales of Waterway Construction Fund inventory :

SUMMARY OF COSTS OF ILLINOIS WATERWAY.

	Itemized cost to Div. of Waterways	Total cost to Div. of Waterways	Partici- pation	Credits	Total cost of Waterway
Marseilles Lock					
Masonry structure.....	\$1,357,656.62				
Miter gate and valves.....	275,499.49				
Operating machinery.....	87,509.37				
Total.....		\$1,720,665.48			\$1,720,665.48
Starved Rock lock and dam...					
Masonry structure.....	2,285,942.87				
Gates and other metal work.....	889,427.29				
Operating machinery.....	87,509.37				
Total.....		3,262,879.53			3,262,879.53
Dresden Island lock and dam					
Masonry structure.....	1,014,647.61				
Gates and other metal work.....	431,933.32				
Operating machinery.....	74,387.78				
Total.....		1,520,968.71		\$74,141.54	1,595,110.25
Lockport lock.....					
Masonry structure.....	1,745,215.70				
Miter gates.....	211,158.19				
Operating machinery.....	60,092.25				
Total.....		2,016,466.14			2,016,466.14
Brandon Rd. lock and dam and Joliet walls.....					
Masonry structure.....	4,161,782.80				
Gates and other metal work.....	412,795.05				
Operating machinery.....	85,371.04				
Total.....		4,659,948.89	\$75,000.00	77,594.04	4,812,542.93
Dredging pools.....		743,348.47			743,348.47
Marseilles Canal.....		907,755.83			907,755.83
Dredge fleet.....		295,999.98		42,128.35	338,128.33
Adjoining contracts.....		64,112.94			64,112.94
Starved Rock pool.....		349,319.19		13,498.19	362,817.38
Marseilles pool.....		300,906.44			300,906.44
Dresden Island pool.....		857,823.51		5,790.57	863,614.08
Brandon Rd. pool.....		65,267.79		2,736.68	68,004.47
Hilliard bridge.....		346,063.15	100,400.00	380.75	446,843.90
Marseilles bridge.....		182,407.33	42,349.47		224,756.80
Smiths' bridge.....		222,349.80			222,349.80
Brandon Rd. bridge.....		102,833.84		10.00	102,843.84
McDonough St. bridge.....		346,052.04		143.00	346,195.04
Rock Island R. R. bridge.....		625,127.47			625,127.47
Jefferson Street bridge.....		365,647.70	125,000.00	220.00	490,867.70
Temporary bridge.....		75,019.33			75,019.33
Cass Street bridge.....		351,475.92	60,000.00	195.00	411,670.92
Jackson Street bridge.....		196,741.97	22,424.10	126.39	219,292.46
Ruby Street bridge.....		650,768.38	7,462.27	725.95	658,956.60
Total of entire waterway.....		\$20,229,949.83	\$ 432,635.84	\$ 217,690.46	\$20,880,276.13

BUREAU OF MAINTENANCE AND OPERATION.

On December 30, 1936 bids were received for the installation of equipment to operate the Utica bridge, the equipment to be installed including electrically operated machinery capable of opening the bridge in not less than two minutes, together with the electrically operated roadway gates and warning signals interlocked with the motor control. The installation provided for improved operating conditions both from the standpoint of vehicular traffic and river navigation for superior to existing conditions.

On April 14, 1937 bids were received for the installation of the electrical equipment for the LaSalle bridge to provide the same operating interval, namely one minute, as provided on the bridges downstream. In the original building of this bridge electric energy was not available but provision for future installation of electrically operated equipment was made. Up to this time the bridge was operated by gasoline motor, the operating interval being four minutes. The only interlock provided was between the end lock and the gasoline motor. Gates and warning lights were manually operated requiring the operator to run to both ends of the lift span, carrying lanterns, before he could proceed to lift the span.

Ice during the spring thaws damaged, to considerable extent, the fenders at LaSalle bridge and on April 14, 1937 bids were received for making repairs to the fender system. Later bids were also received for repairing the fender systems at the Florence and Hardin bridges.

As indicated in Mr. Jeppesen's report the number of bridge openings has increased indicating that the advantages of the use of our waterway facilities are being recognized. The following is a schedule of tonnages carried since its opening:

Year	Tons	Value
1933	482,096	\$ 6,723,778.00
1934	969,102	16,557,342.00
1935	1,004,829	30,694,683.00
1936	1,381,486	40,650,109.00

BUREAU OF RIVERS AND LAKES CONTROL.

During the Spring floods, the east channel dam in the Fox River just north of Main Street, Aurora failed. The west channel dam being a new modern dam remained intact. The old east channel dam was a wooden one, constructed with rock filled cribs. This Division began negotiations to acquire title to these dams and to the water power rights involved in order that the State might control the pool level above for the use of the public. After numerous delays this was accomplished and concurrently an agreement was perfected with the Aurora Sanitary District providing that the District should design and build the new east channel dam and share one-half of the total cost with the State of Illinois. The completion of this project will insure the public of a constant pool above this dam for their use.



Figure No. 19a. Shawneetown, Ill., March 17, 1937. View looking north from intersection of 3rd South Cross St. and Market St. Showing damage to buildings caused by high water of February, 1937.



Figure No. 19b. Shawneetown, Ill., March 17, 1937. Near corner of 3rd N. Cross St. and Locust St. Damage to buildings and debris caused by high water on the Ohio River of February, 1937.



Figure No. 19c. Shawneetown, Ill., March 17, 1937. View taken at public school on Locust St. from street intersection. Damage to buildings and scattered debris caused by high water on the Ohio River, Feb., 1937.



Figure No. 20a. Mound City, March 18, 1937. Damage to buildings and scattering of debris was caused by Ohio River flood of Feb., 1937.



Figure No. 20. Mound City, March 18, 1937. View taken one block west of Illinois Route No. 37. Damage to buildings was caused by high water of February, 1937.



Figure No. 21. View showing the main working shaft of Sahara Mine at Harrisburg during the February flood.



Figure No. 22. View showing the main shaft sand bagged at Peabody No. 43 mine at Harrisburg during the February flood.

At Harrisburg an unusual occurrence took place during the flood of January and February 1937. Two mining companies are engaged in extensive coal mining operations, having their shaft openings near the city limits.

The Sahara Coal Company operated the largest mine and these workings had extended over such a large area that several shaft openings had been utilized. Some of these shafts being too far distant from the recent workings had been sealed off and filled. At one of these locations known as shaft No. 2 shop buildings had been built over the filled shaft and the air shaft had been protected with concrete wall enclosures and provisions to sand bag this to former flood levels had been made. As the water rose the head on the abandoned No. 2 shaft plug increased and the plug failed. The picture following indicates conditions after the flood water receded, the hole shown in the picture contains most of the shop buildings and machinery.



Figure No. 23. Sahara Coal Mine No. 2. View showing condition resulting from failure of plug in air shaft. Caused by back water from the Ohio River during the flood of February, 1937 which flooded the mine. Note high water line on building.

The failure of the plug in Sahara Shaft No. 2 flooded the entire workings of the Sahara Mine. A map (Figure 24) shows the relative positions of the Harrisburg mines and the extent of their workings. Due to the long period since these mines were worked in the area near the barriers between the mines, grave concern was felt by the citizens of Harrisburg and those who worked in the adjoining mines as to the safety of the barriers and probable damage due to subsidence. A committee called upon Governor Horner requesting some sort of aid in the pumping of the Sahara Mine in order to make the adjoining mines safe and to guarantee to the former employees of Sahara No. 3 as citizens of Harrisburg positions after rehabilita-

tion of this mine. Governor Horner designated C. M. Hathaway, Engineer of Construction, Division of Highways, Hugh P. Nicholson, Associate Mining Engineer, University of Illinois and the writer as a committee of three to investigate the conditions resulting from the mine flood. A report to Governor Horner was rendered on March 10, 1937.

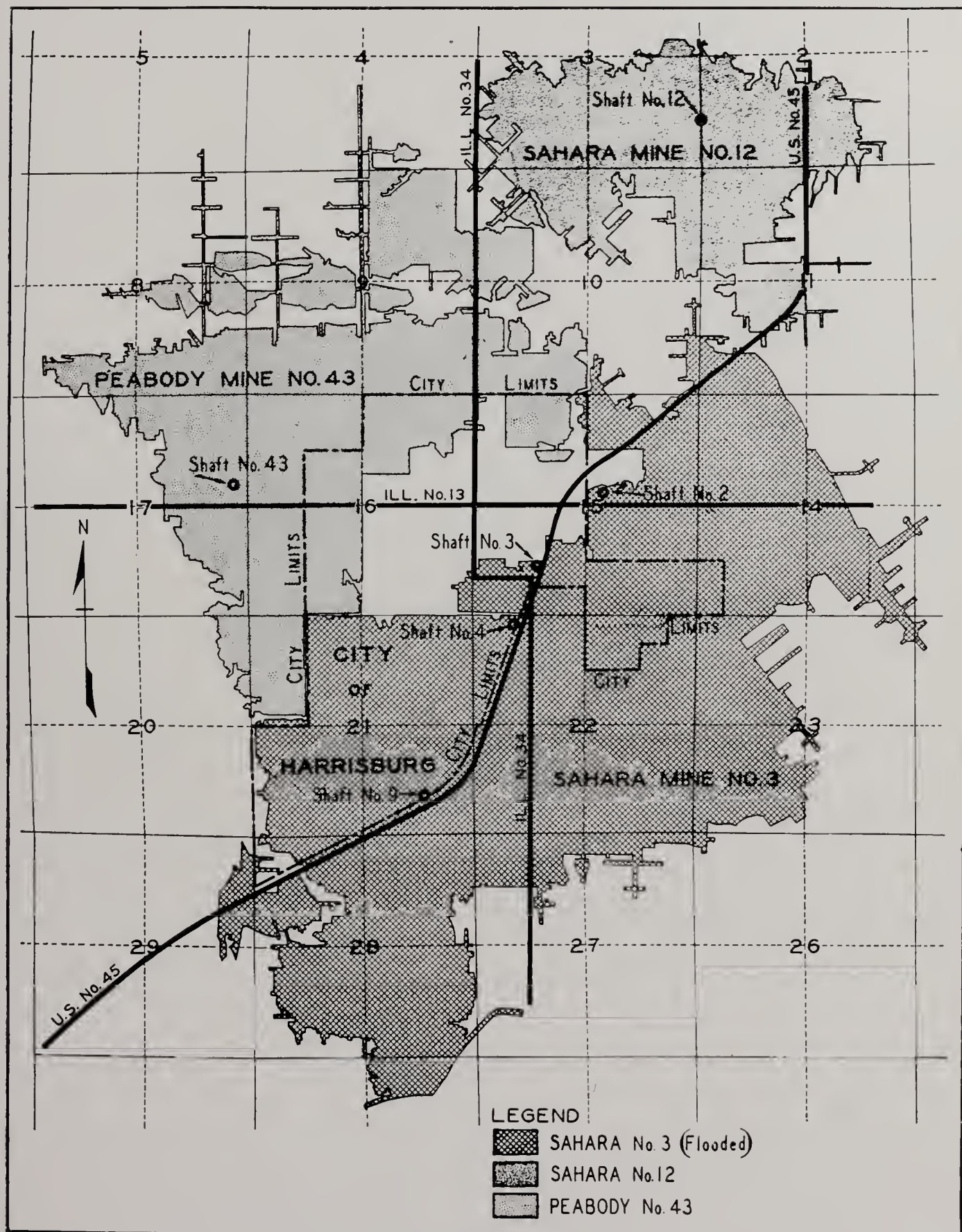


Figure No. 24.

REPORT ON DRAINAGE DISTRICTS.

During the year numerous requests were received for the report on Drainage Districts, which, due to its being too voluminous, had not been included in the nineteenth annual report. As a result of this, a separate report of 52 pages was edited and printed and is known as "Report on Drainage Districts by the Division of Waterways." This report contains many facts about the drainage districts of Illinois not before compiled in such form as to make the information readily usable.

GRAND TOWER DRAINAGE AND LEVEE DISTRICT.

During the latter part of the biennium, plans and specifications were prepared for levee improvements and repairs in the Grand Tower Drainage and Levee District, bids received and a contract awarded to the low bidder, Stubblefield and Company of Marion, Illinois.

BUREAU OF SURVEYS AND INVESTIGATIONS.

One of the larger surveys conducted by this Bureau was the Sny Island Drainage and Levee District survey. This survey included an investigation into the levees and discharges of the creeks running through the district.

Due to the character of the discharge into the district, the high percentage of run-off and the sudden checking of velocity at the entrance to the district, it was found inadvisable and uneconomical to suggest the construction of levees sufficiently far apart and of sufficient height to protect the district against floods from these creeks.

As a result of this, preliminary investigations were carried on with the idea of providing impounding flood control reservoirs in the bluffs to the east of the district.

These investigations included McCraney Creek, Beebe Creek, Hadley Creek, Kizer Creek, Horton Creek, Dutch Creek and Six Mile Creek. The preliminary estimated cost of this protection is \$4,920,000.00.

BUREAU OF ILLINOIS AND MICHIGAN CANAL.

The following report by Mr. V. D. Ehringer goes into detail as to the park development along the Illinois and Michigan Canal. The duty of the maintenance of the Illinois and Michigan Parkway rests with the Division of Parks and in order that it might exercise this duty the Division of Waterways executed a lease to the Division of Parks for that part of the 90 foot reserve strips along the canal which were not in use by the canal at this time or which might in the future be used by the canal. As a result of this lease, some of the employees on the Illinois and Michigan Canal were transferred to the Division of Parks to be used as park maintenance men. Active supervision of the park maintenance was delegated to Mr. Ehringer.

BUREAU OF AUDITS.

Near the close of the biennium lands held by this Division as a result of purchases made for the Illinois Waterway were officially transferred to the Division of Parks. Eight hundred twenty-one and eighteen hundredths acres of land were so transferred.

BUREAU OF BRIDGE MAINTENANCE AND OPERATION

GUNNI JEPPESEN, *Bridge Maintenance Engineer.*

SCOPE OF WORK.

Reference is made to the 19th Annual Report in which appears a complete list of the bridges operated, and maintained in part, or in full, by this Bureau. This includes fourteen movable bridges of which one, the Havana Bridge, will be dismantled shortly, being replaced by a high level, stationary bridge.

New installations of machinery and electrical equipment and of protective devices, such as fenders and pile clusters, are also being handled from this office.

The maintenance work, as well as the operation of movable bridges, are under the supervision of L. C. Mork, Chief Bridgetender, who has also superintended the installation of new electrical equipment on the Utica and LaSalle bridges.

OPERATION.

The Romeo and Lemont bridges over the Drainage Canal, which are single-arm, or bob-tailed, swing bridges, have not been put into regular operation, but a trial swing is being made twice a month to keep the operating machinery in proper order and to check up on the electrical equipment, the stoplights, and the gates.

Beginning June 30, 1937, there will be a bridgetender on duty at the Utica Swing Bridge 24 hours a day. At present, the bridgetender, who lives near the bridge, is summoned by telephone when a vessel is approaching.

On all the other movable bridges there has been continuous bridgetender service throughout the year.

The monthly number of operations for each of these bridges will appear from the following table:

TABLE OF BRIDGE OPENINGS JULY 1, 1936 TO JUNE 30, 1937.

NAME OF BRIDGES														
Month	Lemont	Romeo	Ruby St. Joliet	Jackson St. Joliet	Cass St. Joliet	Jefferson St. Joliet	McDonough St. Joliet	Brandon Rd.	Utica	LaSalle	Pekin	Havana	Florence	Hardin
July 1936			81	85	80	79	77	114	33	40	45	48	47	48
August			78	77	71	71	71	110	23	56*	33	37	43	39
September			73	68	70	64	65	86	19	32	32	43	62	54
October	2	2	87	88	87	90	86	105	20	28	29	42	31	28
November	5	5	72	68	68	71	66	71	19	24	28	42	40	28
December	2	2	31	30	32	31	41	35	4	8	15	24	17	15
January 1937	1	1	23	17	14	18	18	31	0	0	6	1	4	3
February	1	1	8	19	6	7	7	39	1	2	7	7	4	10
March	2	2	93	82	83	87	88	98	23	44	56	41	32	29
April	2	2	128	119	119	121	121	112	54	72	89	56	38	27
May	2	2	114	109	109	110	113	132	64	84	122	116	54	46
June	0	1	118	116	119	115	118	103	46	45	72	79	40	33
Total	17	18	906	878	858	864	871	1,036	306	435	534	536	412	360

* Includes 29 lifts for dressing cables.

The total number of bridge openings for the year was 8031 as compared with 5492 for the fiscal year 1935-36.

MAINTENANCE.

GENERAL. The routine maintenance operations of cleaning, oiling and greasing are being taken care of by the bridgetenders with the aid of the maintenance crew in certain cases. This also includes trial lifts at regular intervals, and the trying out of the stand-by gasoline engines where such engines are provided.

DRESSING COUNTERWEIGHT CABLES. During the previous fiscal year the counterweight cables of the Pekin, Florence, and Hardin bridges were dressed as mentioned in the 19th Annual Report.

During the month of August 1936, the counterweight cables of the La Salle Bridge were similarly dressed. Four hundred and twenty-five pounds of dressing were used which, applied to 3,688 linear feet of 2 inch cable, corresponds to 8.7 linear feet, or 4.54 square feet, per pound of dressing.

PAINTING. In September 1936, a contract was let to the M. W. Kellogg Company for sandblasting and painting Smith's Highway Bridge and the canal span of the Marseilles Bridge. After all the old paint had been removed, down to the bare steel, the structure was given one coat of blue-lead paint followed by two coats of aluminum paint. The vehicle for the blue-lead paint contained about 12% of soy bean oil. The aluminum paint contained 2 pounds of aluminum powder to each gallon of varnish.

The painting of the Marseilles Bridge was completed late in October, but the work on the Smith's Highway Bridge was interrupted by cold weather and was not completed until May 25, 1937.

ADJUSTING NAVIGATION LIGHTS. During the year a request was received from the U. S. Lighthouse Service, Department of Commerce, to adjust the navigation lights on all the State bridges so that the light center of the bulb will fall on the axis of the lens. This adjustment is now being made.

REPAIRS TO FENDERS. In June 1937, a contract was let to Curtis Logsdon and Sons of Beardstown, Illinois, for repairing the fenders and pile clusters at the Florence and Hardin bridges which had been damaged by the ice during the winter 1935-36.

ADDITIONS AND BETTERMENTS.

ELECTRICAL OPERATING EQUIPMENT, UTICA BRIDGE. The movable span of the Utica Bridge is a 300 foot swing span of light construction built some 50 years ago. Prior to 1918, it was never operated and from then on only very seldom until the Illinois Waterway was opened. The operation was by hand, and the bridgetender who lived near the bridge, was notified by telephone when a boat was approaching.

As traffic on the waterway increased this arrangement proved inadequate, and numerous studies and estimates were made of a suit-

able power installation the cost of which must be held to a minimum as it may be expected that the bridge will be replaced within a few years.

On December 30, 1936, bids were received on an electric motor and alternative gasoline motor installation, including electrically operated roadway gates, stoplights, and warning bells, a machinery enclosure, and an operator's house. The low bid for an electric installation was accepted and the contract awarded to Roy W. Christy of Decatur.

The work was completed and regular bridgetender service was established at midnight June 30, 1937.

ELECTRICAL EQUIPMENT, LA SALLE BRIDGE. The movable span of the La Salle (Shippingsport) Bridge is a 260 foot cable lift bridge built in 1929. It is similar to the Pekin, Florence, and Hardin bridges, but while these latter are electrically operated with a gasoline engine for use in emergencies, the La Salle Bridge was equipped with a gasoline engine only, and the gates were operated by hand.

This resulted in very slow operation and in objectionable delays to the very heavy roadway traffic that crosses the bridge.

Accordingly, the Highway Division made plans for the complete electrification of this bridge, and the Division of Waterways took bids on these plans, with slight modifications, on April 14, 1937.

The contract was awarded to the low bidder, the Central States Electrical Construction Company of Chicago.

This work is now in progress.

The plans provide for two 50 H P motors with accessories and control equipment, electrification of the roadway gates, and the installation of warning bells and "Neon" stop lights, all operated and controlled from the operator's house and machinery enclosure, located at the center of the lift span above the roadway.

PILE CLUSTERS, LA SALLE BRIDGE. During the winter, 1935-36 the fenders and pile clusters at the La Salle Bridge were destroyed by the ice, as mentioned in the 19th Annual Report.

On January 4, 1937, a War Department permit was issued for four pile clusters of 31 piles each, two at the upstream end of each of the two channel piers, and on May 6th a contract for this work, and for necessary repairs to the fender work attached to the piers, was awarded to Harry A. Thompson of Chicago. The work was about 90% completed by the end of the year, having been delayed by high water.

STOP LIGHTS, PEKIN AND HARDIN BRIDGES. New stop lights of the Crouse-Hinds type have been purchased for the Pekin and Hardin bridges and will be installed shortly.

NAVIGATION LIGHTS, BRANDON ROAD BRIDGE. New navigation lights of the Norwood-Noonan type have been purchased for the center span lights of the Brandon Road Bridge. The lights originally installed were of special design and so located that they could not be reached for servicing without danger to the men.

NAVIGATION LIGHTS, SAG BRIDGE. The "Sag Bridge" over the Drainage Canal (on S. B. I. Route 54) is a 250 foot truss span, the piers being located a distance back from, or outside, the canal lines.

The bridge is equipped with only two (green) navigation lights, and as electric current is not available at the bridge these lights are equipped with oil-burning lanterns that require servicing every other day.

This arrangement being unsatisfactory, comparative cost studies have been made of a number of alternative schemes including commercial electric service (which requires the building of a pole line), battery service, and service by means of an automatic gasoline-electric plant.

BUREAU OF RIVERS AND LAKES CONTROL

THOMAS B. CASEY, *Chief.*

Briefly the duties of the Rivers and Lakes Control Bureau of the Division of Waterways consists in making investigations, reports and recommendations for the proper administering of the Laws of the Rivers and Lakes Commission whose power and duties have been vested in the Department of Public Works and Buildings by appropriate acts of the Legislature. It was to these pursuits that the activities of this Bureau were directed primarily. In addition to the above it was assigned the duties of preparing such designs, investigations and reports on flood control that were referred to this Division.

The organization of the Bureau, as shown on the accompanying map (Figure 25), consists of four districts divided into 18 inspection sections. The Northern District formerly was a part of the Chicago District but on May 1, 1937 this district was divided and the Northern District created. Because the intensity and character of the work in the Metropolitan District in and around Chicago required so much special attention, dividing this small active territory into a separate district was necessary to properly administer the work within its present territory.

Summarizing the activities of the Bureau there were 240 investigations and recommendations made for the issuance of formal permits by the Department of Public Works and Buildings. These may be itemized as following according to the type of work involved:

Bridges		Water filtration plant.....	1
Railroad	1	Sewer outfalls & crossings.....	27
Highway	56	Water main crossings (city).....	3
Miscellaneous	4	Dams for	
Bridge repairs	3	Water supply	6
Docks, piers & piling.....	36	Recreational pools	14 20
Shorewalls and bank protection.....	17	Telephone and power line crossings—	
Pipe line crossings (commercial).....	10	Overhead	15
Levee repairs	2	Submarine	7 22
Dredging	29	Miscellaneous	6
Water intake structures.....	3		
		TOTAL	240

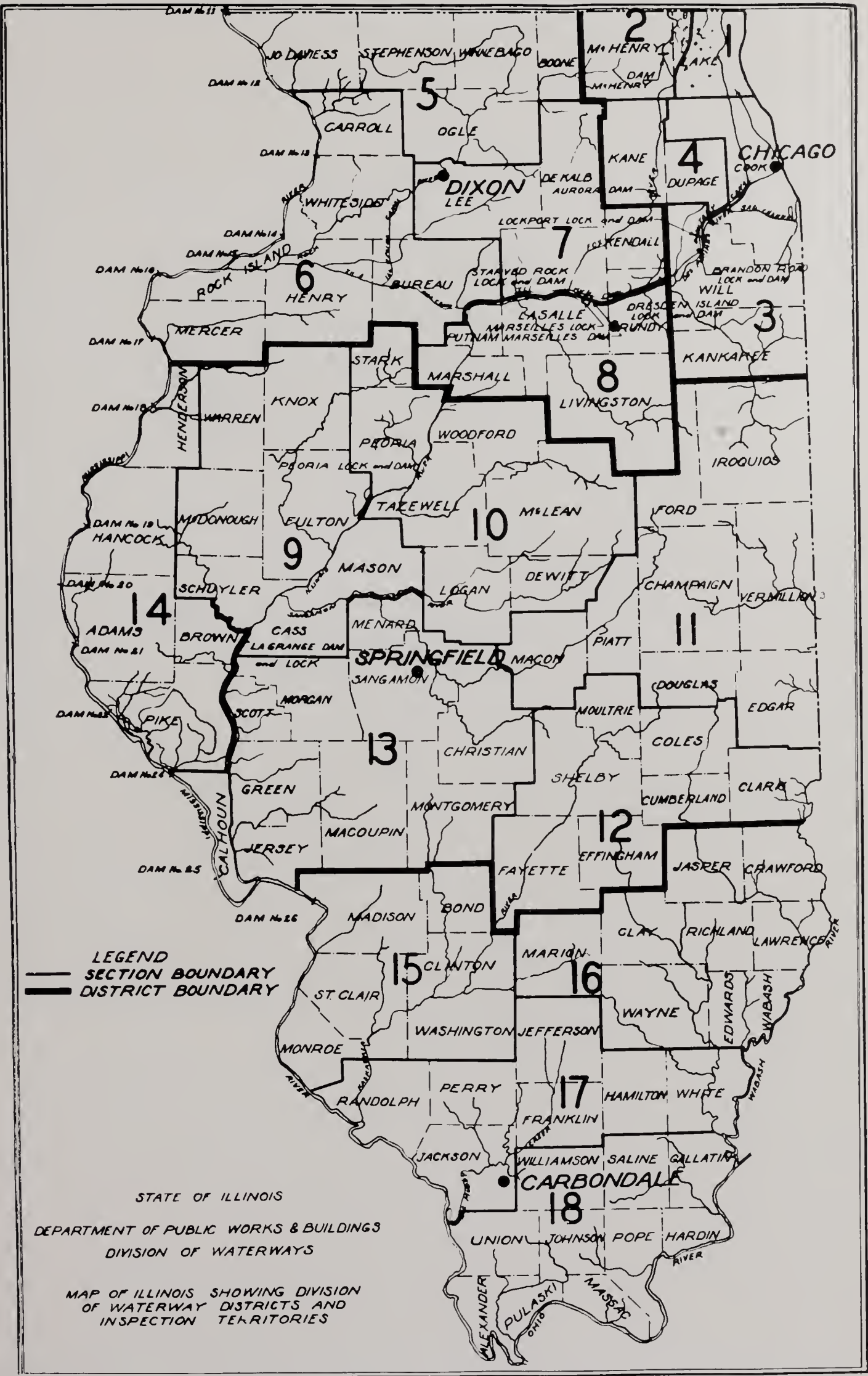


Figure No. 25.

The following hearings were conducted by this Department and subsequent orders issued:

Date	Place	Subject
Sept. 8, 1936	Chicago, Ill.	The application of the Chicago Exposition Authority for permission to build bridges connecting Northerly Island in Lake Michigan with the Mainland, Chicago, Illinois.
Nov. 28, 1936	Chicago, Ill.	The application of Mr. Elmer J. Whitty for permission to fill the DuPont Slip on the Chicago River.
Dec. 15, 1936	Chicago, Ill.	The application of the Chicago Park District to construct a pier and bathing beach opposite North Avenue in Lake Michigan in Chicago, Illinois.
Dec. 15, 1936	Chicago, Ill.	The application of the City of Chicago to construct a Filtration Plant on the shores of Lake Michigan between 75th Street and 79th Street in Chicago, Illinois.
Jan. 29, 1936	Chicago, Ill.	The application of Mrs. Lesley J. Boal for permission to construct a pier opposite her property in Lake Michigan in Winnetka, Illinois.
April 1, 1937	Rockford, Ill.	The application of the Winnebago County Forest Preserve District to construct a dam in Kilbuck Creek in the Kilbuck Forest Preserve in Winnebago County, Illinois.
April 8, 1937	Charleston, Ill.	The application of the City of Charleston, Illinois, to repair the city's dam in the Embarrass River and to add flashboards to the water-intake in the river at the city's waterworks and to construct a new water-intake at the city's waterworks.
May 18, 1937	Mason City, Ill.	Application of the Salt Creek Special Drainage District to construct a levee and replace and repair breaks and washouts in spoil banks.

More detailed accounts of the activities are given in the following reports of the respective districts within the bureau.

CHICAGO DISTRICT.

Supervision was maintained in the seven inspection districts contained in the Chicago District from July 1, 1936 to May 1, 1937. Seven inspectors and two investigators are included in the personnel of this territory which embraces the shore line of Lake Michigan, the Chicago River and its tributaries, the Fox Chain-of-Lakes and the watersheds of the DesPlaines, Dupage, Fox, Kankakee, Iroquois and Rock Rivers, and the Illinois River as far as Starved Rock. With the creation on May 1, 1937 of the Northern District with headquarters at Dixon, the Chicago District was limited to four inspection districts covered by three inspectors and two investigators. The office force consisted of a District Engineer, L. E. Alswede, one Assistant Engineer, one Draftsman and one Office Secretary.

During this twelve month period one hundred and thirty-five (135) permits were issued by the Department of Public Works and Buildings for construction work on the rivers and lakes in the district. These permits were for seawalls, piers, docks, sewage treatment plant outlets, pipe line and transmission line crossing of streams, earth fills, dredging and dam construction. Every application for

a permit was investigated, a field survey was made where necessary, and a report on the merits of the application was rendered to the Bureau Office at Springfield.

While supervision of the work of the inspectors and investigators was maintained the Chicago District Office functioned as follows during the year covered by this report:

1. Field surveys were made and platted and reports rendered on Nett's Island at Fox Lake, Fox River levels from Algonquin Dam to McHenry Dam, McHenry Dam site, shore line of Lake Michigan at Winnetka Waterworks, Kilbuck Creek in Winnebago County Forest Preserve, I & M dumping at Kedzie Avenue, Wolf Lake outlet in Cook County, Turtle Creek at South Beloit, North Channel Kankakee River at Momence and Wilmette Harbor on Lake Michigan.

2. The following contracts were prosecuted:

- (a) Dredging in the channels of the Fox-Chain-of-Lakes. This was a continuation of the contract awarded in December 1935, and placed in operation April 15, 1936. The work was 50% completed on July 1, 1936, and entirely finished together with an extension of said contract on November 1, 1936. A total of 18,965 lineal feet of channel dredging with an 80-foot bottom width and a depth of five feet below boating stage were completed under this contract and extension thereto.

- (b) Weed cutting in the channels not being dredged in the Fox Chain-of-Lakes (July and August 1936).

3. Work sponsored in connection with the Works Progress Administration:

- (a) The removal of a rock shoal of 7500 cubic yards from the Little Calumet River at Roll Avenue in Blue Island. This project was 25% complete on July 1, 1936, and was closed down in September 1936, due to the exhaustion of Federal Funds.

- (b) Deepening and widening of the Little Calumet River from the Illinois-Indiana State Line westward four miles to the mouth of Thorn Creek. Easements were obtained by the Chicago District Office from 37 of the 38 affected property owners and the project was placed in operation October 13, 1936. The project closed down shortly after July 1, 1937, due to the exhaustion of Sponsor's and Federal Funds allotted to the project, with less than 25% of the work completed. The greater portion of the spoil banks created by the dredging remain to be leveled and a continuation application to complete the spreading of the spoils has been filed. Under this later application the Division of Waterways, as sponsor, is to act in a supervisory capacity with no additional outlay of cash.

NORTHERN DISTRICT.

On May 1, 1937, the State was redivided into four districts. The new fourth district, with headquarters at Dixon, was created. The personnel includes four inspectors under the supervision of R. G. Heck, District Engineer.

In addition to well directed organization efforts the months of May and June were consumed with the making of investigations of permit applications and inspections of work in progress. Already there has been an increase in the number of permits issued in this territory. It is thought that the continued and repeated visits of our inspectors to permit applicants will result in the education of those applicants with respect to the requirements of our division.

CENTRAL DISTRICT.

The personnel of the district consists of six inspectors under the direction of Guy C. Rudd, District Engineer.

The activities in the Central District during the fiscal year were confined principally to the routine inspection of the rivers and streams within the district, and the investigation of complaints received by this Division. All construction work authorized by permits was regularly inspected by the various inspectors and reports regarding the progress and condition of the work at each inspection transmitted to the Springfield Office.

Some of the more important work authorized by permits and either completed or under construction during the year are as follows:

The Cimco Corporation dock at Havana was completed and put into operation. At present approximately two thousand tons of coal per day are transferred from railway cars to barges to be shipped over the Illinois Waterway to Chicago.

The City of Bunker Hill completed its dam across Wood River for the purpose of impounding the water of the river to provide its municipal water supply. The City of Mount Olive started construction of a dam across a stream north of the city to impound water for municipal supply.

Three fixed bridges over the Illinois River have been under construction or construction started by the Division of Highways during the year, namely, the Havana, Lacon and Hennepin highway bridges. Two bridges across the Sangamon River have been under construction, one north of Springfield and the other near Oakford and extending between Menard and Mason Counties.

The levees of the abandoned Chautauqua Drainage and Levee District have been rebuilt by the United States Department of Agriculture, Bureau of Biological Survey, which has made the old district a migratory water fowl refuge.

The State participated with the Federal Government in the rebuilding of the levees of five drainage districts along the Illinois River. The levee work in the Mauvaisterre Drainage and Levee District has been completed, as had that in the Lost Creek Drainage and Levee District and Subdistrict Number One of the Hager Slough Drainage and Levee District. The levees of the Coon Run Drainage and Levee District and the Kerton Valley Drainage and Levee District are now being rebuilt.

The U. S. Engineers are doing considerable work along both the Illinois and Mississippi Rivers, and although the State has no

jurisdiction over the work many drainage districts and communities in the State will be affected. Most of the work along the Illinois River is included in the construction of the locks at Peoria and LaGrange and the dredging of the navigation channel to regulation width and a depth of nine feet below the low water stage expected when the diversion of water from Lake Michigan at Chicago is decreased in 1939. The work along the Mississippi River consists mostly of the construction of the locks and dams required to provide a nine foot navigation channel in the river.

SOUTHERN DISTRICT.

The personnel of this district consists of four inspectors under the supervision of E. D. Dewey, District Engineer.

During the past fiscal year the inspectors have made periodical trips over their respective districts, for the purpose of ascertaining whether all construction work affecting rivers and streams in the district has obtained the approval of the Department.

Inspection District No. 16 has been especially active due to the oil field development in Clay, Wayne and Richland Counties. Approximately 200 wells in this district are either producing or are being drilled at this writing. It has been necessary to see that all temporary and permanent pipe line crossings of streams, dams and water pumping plants were installed in such manner as to cause no obstruction to the natural flow of those streams. Very little trouble has been experienced with the operations of major companies though some of the smaller "wild cat" operators have attempted to place lines without consideration for the rights of the State and this has necessitated more than ordinary surveillance of the district.

The following investigations and reports have been made:

Completed removal of old steel railroad bridge from channel of Embarrass River near St. Marie, Jasper County.

Reported on location of all islands in Wabash, Ohio and Mississippi rivers.

Reported on dumping of rubbish in channel of small stream near Evansville, Randolph County.

Numerous complaints from property owners along streams have been received, investigated, and means suggested to correct conditions in the channels.

Rainfall for the first 23 days of January, over a portion of the southern district, was equal to about half of the average annual rainfall for that area, and long before the major flood reached the Ohio River, the Wabash River and other smaller streams were overflowing. Developments along these rivers and streams were watched closely and reports on changing conditions were forwarded almost daily to the Springfield office. As the flood moved into the Ohio Valley of Southern Illinois an attempt was made to keep in touch with various towns and drainage districts but this had to be abandoned due to the disruption of telephone and telegraph service. All possible agencies in the southern portion of the State were mustered into one unit. As a portion of this unit, the personnel of the dis-

trict assisted ably in organizing the City of Cairo fight against the flood waters and after the recession of the water, in the rehabilitation of water supplies in flooded towns and farming communities.

Throughout the year the repeated trips of inspectors to various city and county officials and to private citizens have resulted in very satisfactory cooperation on the part of these individuals in submitting applications for permits and approvals before starting construction on projects under the jurisdiction of this division.

Under allotments made various meritorious flood control projects have progressed rapidly which when completed will serve as definite links in "flood-proofing" the valley.

As during the past year, it is thought that the rapid growth of the oil industry in the southern portion of the State will continue to be an important factor in the work of this office, and that a constant watch of the area affected must be kept in order to eliminate obstructions in our rivers and streams.

Since the flood of January 1937 numerous requests for aid and advice on problems, which were outgrowths of the high river stages of the flood, have been received and suggestions offered.

BUREAU OF SURVEYS AND INVESTIGATIONS

FRANK S. BROWN, *Chief*.

The Bureau of Surveys and Investigations maintained headquarters for the year at the Illinois and Michigan Canal office at Lockport, and the work was carried out by personnel consisting of a chief bureau, instrumentman, draftsman, five rodmen, and a recorder.

During the past year numerous surveys were made. The most important ones are listed below.

A survey of the South Beardstown levees in Cass County was made to determine the elevation, length, and strength as a secondary protection to the city of Beardstown.

From the middle of August to the latter part of October the survey party was making a survey of McCraney, Kiser, Hadley, and Bay Creeks in Pike and Calhoun Counties. These streams are a part of the Sny Island drainage district and carry the watershed from the adjacent hills across the bottom land to the Mississippi River, and during excessive rainfall overrun their banks and levees, causing this land to flood and damaging many crops. The purpose of the survey was to determine the fall of these creeks and the width, length, and size of the present levees so that a study can be made as to a means of preventing the annual crop loss in the bottom land. On this survey 25 miles of creek and 25 miles of levee were traversed and cross-sectioned.

The survey party has spent about two months on the survey of Fox River between the Algonquin and McHenry dams in McHenry County. A complete survey of the two dams has been made, a transit line and line of levels between them have been run, and a topographical survey for the lower half of the area has been made and platted. When finished, this survey will include soundings of the river, and is being made to find a proper location for a dam so that a good depth of water can be maintained during the dry seasons. About a month is needed to complete this survey.

During the month of February the survey party worked on the Kaskaskia River in Fayette County in the vicinity of Vandalia, enlarging on the work done the previous year, making a complete topographical survey of the river and the levees from the U. S. 51 highway bridge at Vandalia north to the State Penal Farm. The Kaskaskia River broke its levees and overflowed hundreds of acres in the spring of 1937, and the district is anxious that some work be accomplished to help this condition. Surveys for three levee set-backs below the Vandalia highway bridge were also made.

A survey for levee extension and repair on the big Muddy River near Grand Tower, Jackson County, was made in December, 1936. An estimate of the cost of the work was compiled in the Springfield office, a contract was let, and the work completed the following summer.

A survey for the extension of channel work on Rocky Run Creek in the Hunt Drainage and Levee District in Hancock County was made in November.

In March a topographical survey of Salt Creek near Mason City, in Mason and Menard Counties, was made to determine the drainage area involved and the location of this creek with respect to the Chicago and Alton Railroad crossing.

In addition to these numerous surveys over the State, the survey of the Illinois and Michigan Canal and its properties was continued. The control line was finished and monumented for the entire length of the canal, beginning with station zero at Ashland Avenue in Chicago, to station five thousand one hundred and thirty-three at the steamboat basin in LaSalle, a distance of 97.2 miles. All structures adjacent to and crossing the canal within the 90 foot reserve limits have been accurately located and plotted as far as Seneca, about 75 miles from Chicago. Numerous encroachments and squatters have been found and reported so that necessary action could be taken regarding them. This survey is also establishing the reserve lines as laid out by the original survey in 1847, and locating all section lines that cross the canal. All new and renewal leases along the canal are being referred to stations on the control line.

Incidental with the survey of the canal, numerous other works were done, such as monumenting the state land along the Fox River Feeder near Ottawa and between Channahon and McKinley woods; a survey of the Frederick and Bonnell properties that were acquired by the State; a profile of the canal banks at Lockport, and between locks eleven and twelve, Ottawa; a layout of the Norris Grain Company leased land in Ottawa; a survey of the canal break near lock eleven, Ottawa; a survey of the Nettle Creek Aqueduct near Morris for purpose of rebuilding; and an investigation of the sewer from the clearing district in Chicago discharging into the canal near Argo.

A general check-up of the four bascule bridges in Joliet as to alignment, movement, and elevation was made at the request of the Bridge department, as were the locations of the pile clusters for the contractor on the LaSalle bridge over the Illinois Waterway.

BUREAU OF ILLINOIS AND MICHIGAN CANAL

V. D. EHRINGER, *Superintendent.*

This report covers the activities and accomplishment of the Bureau of Illinois and Michigan Canal during the fiscal year from July 1, 1936 to June 30, 1937.

HISTORICAL BACKGROUND AND FUTURE USE.

Before reporting the activities of the past year, it is believed that a brief historical resume of this old waterway together with an outline of its probable future use should be made.

In 1673, Joliet, the French missionary, noted the favorable possibilities for a canal to connect the DesPlaines River, a branch of the Illinois River, with Lake Michigan. He visioned a short canal for small craft only. Nothing was accomplished toward the actual construction until in 1822, when Congress authorized Illinois to build the



Figure No. 26. Old Canal Boat "City of Pekin" which is to be restored.

canal through the public lands. In 1827, Congress granted to Illinois, one half of a strip of land five sections wide on either side of the proposed route to help finance the project, Illinois selecting the odd numbered sections. With funds obtained from the sale of these lands, the State of Illinois began construction on the canal in 1836 and it was finally completed in 1848.

The cost of constructing the canal was in excess of \$6,000,000 and this sum was raised by land sales and selling bonds. Use of the canal as a commercial transportation artery was a thriving business for several decades after the canal was opened. All indebtedness was paid off and a surplus paid into the State Treasury.

Canal business flourished until late in the eighteen seventies when the railroads became serious competitors, although 1882 was the biggest year in the canal history from a tonnage standpoint. In that year, 1,011,287 tons of freight were transported on the Canal. After that date commerce gradually decreased. The completion and opening in 1933 of the Illinois Waterway, to replace the Illinois and Michigan Canal, almost entirely eliminated any further use of the Canal as a commercial waterway.

Although this old waterway had to step aside for the march of progress, it still was a valuable piece of State property and in order that it could be put to a worth-while public use, it was decided in 1933, to develop the reserve strips along the banks into park or recreational areas. Through cities, where the environment was not favorable for this type of development, industrial developments on Canal property were to be encouraged.



Figure 27. Widened towpath road near Dresden Lock.

Five CCC Camps started work in 1933 on the Illinois Michigan Canal Parkway and the work accomplished soon proved that utilization of the reserve strips for park purposes was no mistake. The heavily wooded reserve strips, the historical association, the wild life areas, and the possibility of using the canal as a connecting link of a major recreational system, all make this project worth-while from a recreational and also public benefit viewpoint.

DEVELOPMENT WORK BY THE NATIONAL PARK SERVICE.

The CCC Camps at McKinley Woods and Marseilles worked on the Illinois and Michigan Canal Parkway during the entire period covered by this report and there also was a camp at Buffalo Rock from October 15, 1936 to June 30, 1937.

During the previous years, the CCC Camps' time was devoted almost entirely to work of strictly recreational nature, such as construction of shelters, park roads along the towpath, latrines, parking areas, picnic facilities, bridges, foot trails, etc. The major part of this type of work was completed at the beginning of the past fiscal year. At



Figure No. 28. New Waste Gates above Lock No. 8.

that time we were able to convince the National Park Service officials that the successful completion of the Illinois and Michigan Canal Parkway required the complete restoration of all water control structures, and we secured an interpretation which materially enlarged the scope of the CCC program.

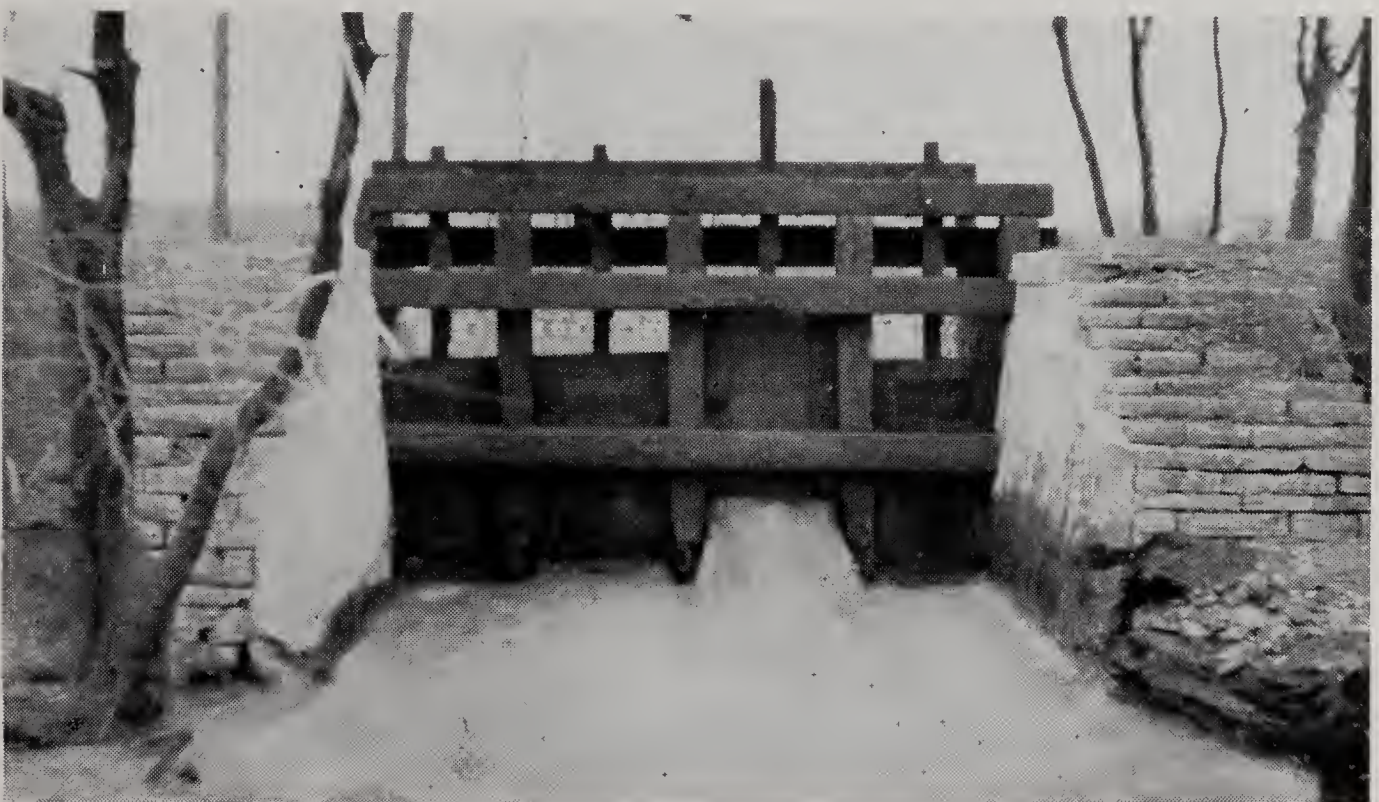


Figure No. 29. New Waste Gates below Lock No. 8.

In order to preserve the historical value of the old canal locks etc., the National Park Service, through the State Park Emergency Conservation Work, agreed to assist in authentically restoring these old structures. At the time this report is written, work is almost complete on locks seven and twelve and has just started on locks eight and eleven. The restoration work includes the construction of new lock gates which are replicas of the original gates and repairing the masonry lock walls. All deteriorated stones are removed and the cavaties filled with new stone of the same face dimension as the original stone.

Other water control structures were restored by the CCC in addition to the locks. The waste gate structure just east of lock nine was entirely rebuilt and new waste gates were constructed for three other waste gate structures. The combination waste gate and spillway at lock twelve is being remodeled and improved. The pool above lock twelve has probably caused more damage, due to bank breaks, than any other section of the canal and the work now being done at lock twelve will eliminate much of the damage in the future.



Figure No. 30. Nettle Creek Aqueduct Project.

Possibly the weakest point of the entire canal was the old aqueduct over Nettle Creek in Morris, Illinois. This old structure was so damaged by deterioration and corrosion that its collapse was imminent. A new structure was designed consisting of a concrete flume supported by reinforced concrete girders. It will have a foot bridge on the north side and a towpath bridge on the south, the flume girders being the inner supports of the bridge floor and stone archs the outer supports. The old abutments are to be faced with stone. This project has been approved by N. P. S. officials and the Marseilles CCC Camp has started work on this job.

The old towpath walker's house, near the site of the Kankakee Feeder, was moved to another location and completely remodeled. It

is practically a new house and is intended to be used as a custodian's residence for the park area near the Kankakee Feeder. A utility building and garage were also constructed in connection with the house.



Figure No. 31. New Custodians Residence at Kankakee Feeder Area.

At Aux Sable, a service building was constructed. This building has storage space for several trucks and also includes a work shop. It is planned to use this building as a center for maintenance work and also for storage of park equipment during the winter.

Other work by the CCC Camps included the construction of a fireplace picnic shelter at Aux Sable, a reinforced concrete foot bridge



Figure No. 32. New Service Building at Aux Sable.

at Marseilles, construction of a latrine at Aux Sable, and a comfort station at Gebhard Woods. The towpath road was extended from lock eleven to lock twelve, from Split Rock to lock fourteen, and was widened in the vicinity of Dresden Lock. There are about 15 miles of towpath road yet to be constructed and then it will be possible to drive along the canal for its entire length below Joliet.

With the exception of the Nettle Creek Aqueduct, the CCC Camps have furnished both labor and materials for all the work mentioned. The State contributed about one half of the materials for the Nettle Creek Aqueduct. Pictures showing some of the work just described appear later in this report.

ACTIVITIES.

At the start of the fiscal year, the services of three towpath walkers, one carpenter, and the labor foreman were terminated as there was not enough work to justify retaining them on the payroll. The positions of towpath walkers were discontinued in the three sections between Joliet and Chicago and inspection of this part of the canal was handled by employees of the Lockport office. A draftsman was added to the office staff in November. With these exceptions, the personnel was the same as at the close of the previous fiscal year.

The Canal Office at Lockport, which was in a very dilapidated condition, was rearranged, remodeled and redecorated. Additional office furniture and equipment was secured and the office now has a respectable, efficient appearance. A new drafting room was added and a new boiler for heating the building was installed.

All of the old records at the Lockport Office have been cataloged, indexed and filed. The National Park Service furnished two historians for this job. These men were trained for this kind of work and the records, maps and documents in the vault were carefully inspected and filed in an efficient manner. The records of the past one hundred years are kept at the Canal Office and historians are just beginning to realize what a wealth of source material pertaining to the economic and cultural development of Northern Illinois is available at this office. Within a few years, arrangements should be made for providing a suitable place to keep these valuable records.

The survey party completed running the transit line to the end of the canal at Peru, and are now monumenting this line. No property lines of the reserve strips were established, but a physical survey, referenced in with the transit line was completed in some sections. The later survey disclosed a number of encroachments and resulted in leases being made with people encroaching on canal property. Four certified copies of land sales by the Canal Commissioners were furnished.

No serious bank breaks or other forms of damage occurred during the past year, but the channel proper is in such shape that much trouble can be expected in the future if allowed to continue in its present condition. In order to reduce possible future damage, ar-

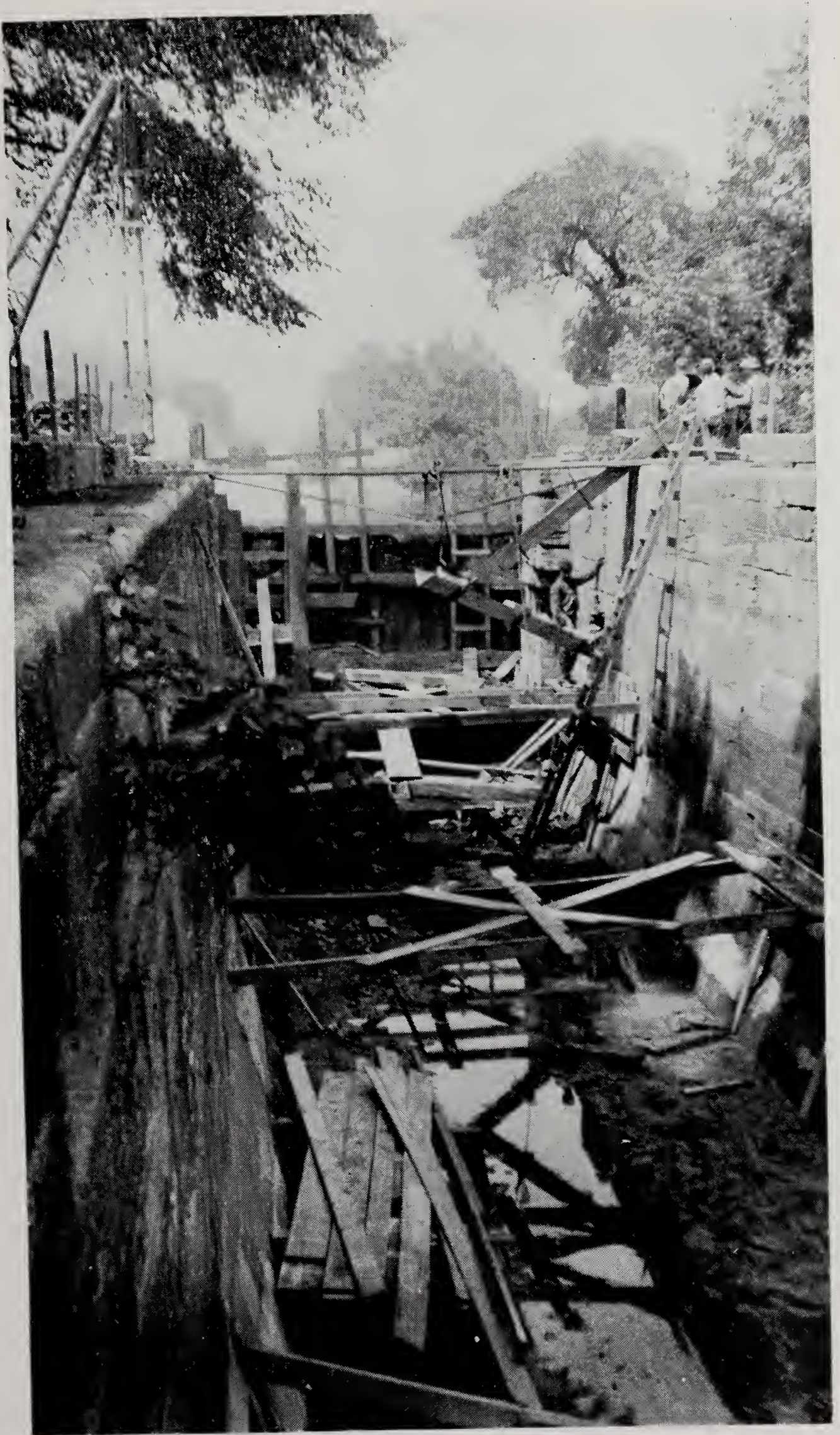


Figure No. 33. Repairing walls at Lock No. 7.

rangements are being made at the time this report is written, to secure equipment for dredging the channel. It is five years since the canal was dredged and the channel has gradually been filling up since that time. A number of creeks empty into the canal and bars have formed at the mouths of these creeks. After an extremely severe storm last

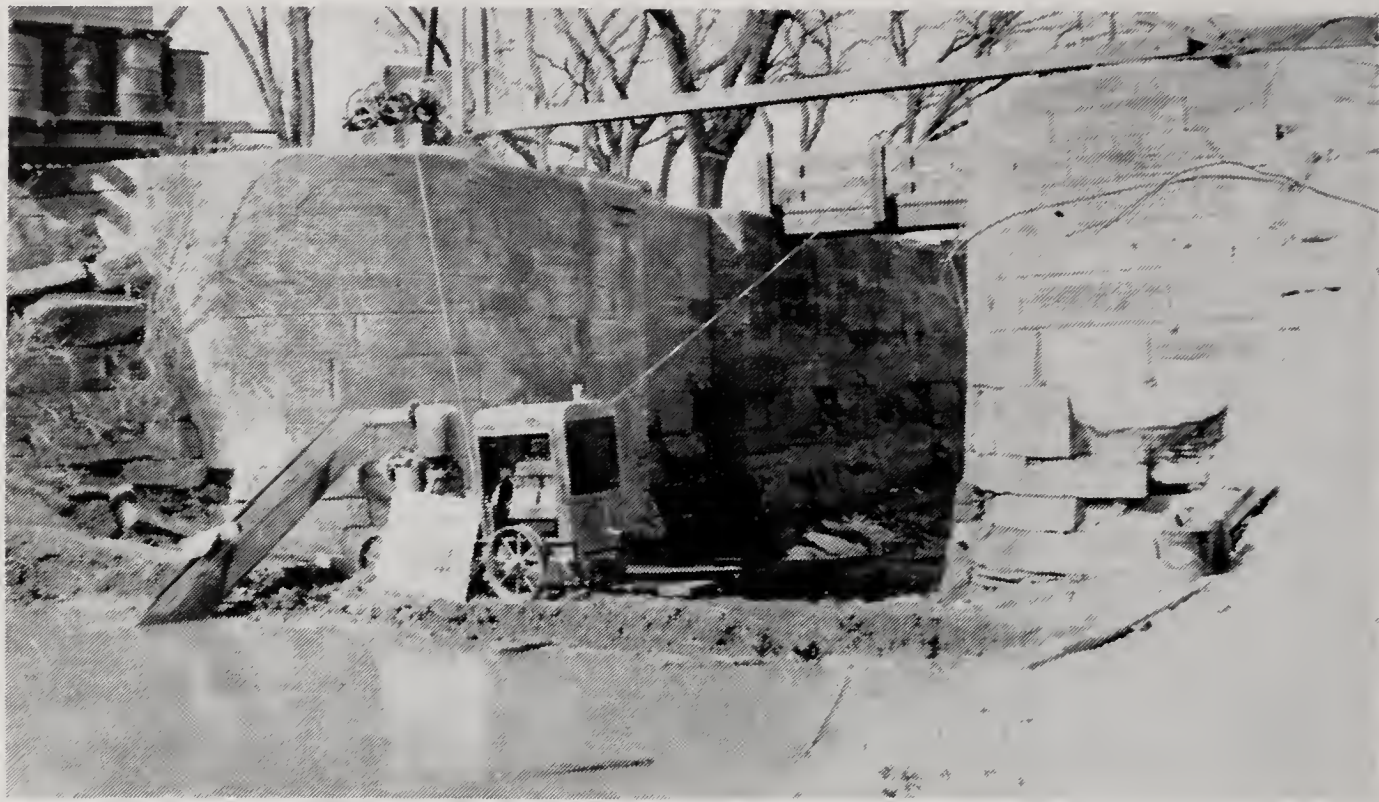


Figure No. 34. Lower Cofferdam at Lock No. 7.

April, the bar at Carson Creek was so large as to entirely obstruct flow and it has been impossible to feed any water to the levels below that bar. With the canal dredged and the water control structures in first class operating condition, the possibility of bank breaks will be reduced to a minimum.



Figure No. 35. Cleaning out the Chamber of Lock No. 7.

FINANCIAL REPORT.

The balance in the Illinois Michigan Canal Fund on July 1, 1937 was \$42,348.88. The revenue during the past fiscal year was \$16,006.80, \$1,166.32 less than was received the previous fiscal year. On the other hand, the expenditures were \$6,474.52 less than the previous year, so that expenditures over receipts were \$5,021.75 as compared



Figure No. 36. Removing Old Gates at Lock No. 7.

to \$10,329.95 for the previous year. This is the nearest the canal has come to operating within its income during the past five years. The future outlook is very good, however, and it is believed that



Figure No. 37. Restoration work at Lock No. 8.



Figure No. 38. Bridge over Waste Gate Structure Below Lock No. 8.

within the next year or two the financial statement will again show the canal operating at a profit. From all indications, the receipts for the coming year will show at least a twenty-five percent increase and perhaps more.

During the past year, 25 land leases, one gas main lease, one steam pipe lease, and one land and house lease were executed and approved by the Department. These leases increased the canal revenue by \$865. A lease was also made with a construction company for dockage privileges at the Package Terminal during the winter months at a rental of \$250. On July 1st, 1937, negotiations were nearly com-



Figure No. 39. Removing Deteriorated Stone Lock No. 8.

pleted for fifteen more leases which, when approved, will increase the canal income by an additional \$882.50.

The Norris Grain Company completed construction of a reinforced concrete grain elevator on canal property in Ottawa and the first payment for grain handled through this terminal was made in June 1937. The lease with this Company calls for rental to be paid on the quantity of grain handled with a minimum rental of \$3,000 per year.



Figure No. 40. Repair Work at Lock No. 8.

SUMMARY OF I. & M. CANAL FUND.

July 1, 1936 to June 30, 1937.

Balance on hand July 1, 1936.....	\$47,370.63
Expenditures	\$21,028.55
Receipts	16,006.80
Expenditures over receipts.....	\$ 5,021.75 \$ 5,021.75
Balance on hand July 1, 1937.....	\$42,348.88

DETAILED RECEIPTS.

Bill board	\$ 62.50
Bridge	1,688.89
Gas Main	296.00
Land	8,661.76
Land and House.....	716.00
Pole Line	1,139.44
Miscellaneous	291.20
Water Pipe	2,296.66
Well	35.00
Switch Track	800.00
Refund	19.35
Total	\$16,006.80

DETAILED EXPENDITURES.

Salaries and Wages.....	\$16,476.24
Office Expenses	1,337.05
Travel Expenses	1,250.54
Operation	399.50
Repairs	836.15
Equipment	575.25
Permanent Improvements	153.82
Total	\$21,028.55

I. & M. CANAL
STATE OF ILLINOIS
SUMMARY OF COLLECTIONS DEPOSITED—JULY 1, 1936 TO JUNE 30, 1937.

1936	Bill-board	Bridge	Gas main	Land	Land and house	Pole line	Misc.	Water pipe	Well	Switch track	Refund	Total
July-----	\$5. 00	\$300. 00	-----	\$901. 00	\$41. 00	\$214. 26	\$5. 30	\$510. 00	-----	-----	-----	\$1, 976. 56
August-----	40. 00	100. 00	-----	455. 50	41. 00	37. 59	-----	686. 66	-----	-----	-----	1, 360. 75
September-----	5. 00	-----	\$111. 00	411. 00	48. 00	47. 59	15. 90	-----	-----	-----	\$19. 35	657. 84
October-----	-----	250. 00	50. 00	471. 00	64. 00	52. 59	-----	105. 00	-----	-----	-----	992. 59
November-----	-----	163. 89	10. 00	1, 302. 50	81. 00	37. 59	-----	-----	-----	-----	-----	1, 594. 98
December-----	-----	100. 00	-----	706. 00	58. 00	37. 59	-----	-----	-----	800. 00	-----	1, 701. 59
1937												
January-----	-----	100. 00	-----	1, 371. 50	70. 00	37. 59	-----	970. 00	25. 00	-----	-----	2, 574. 09
February-----	-----	350. 00	-----	406. 00	40. 00	427. 26	250. 00	-----	-----	-----	-----	1, 473. 26
March-----	-----	25. 00	-----	296. 00	90. 00	134. 61	-----	-----	10. 00	-----	-----	555. 61
April-----	12. 50	200. 00	25. 00	601. 00	51. 00	37. 59	-----	-----	-----	-----	-----	927. 09
May-----	-----	100. 00	-----	1, 160. 00	85. 00	37. 59	5. 00	25. 00	-----	-----	-----	1, 412. 59
June-----	-----	-----	100. 00	580. 26	47. 00	37. 59	15. 00	-----	-----	-----	-----	779. 85
	\$62. 50	\$1, 688. 89	\$296. 00	\$8, 661. 76	\$716. 00	\$1, 139. 44	\$291. 20	\$2, 296. 66	\$35. 00	\$800. 00	\$19. 35	\$16, 006. 80

SUMMARY OF ILLINOIS AND MICHIGAN CANAL LEASES.

Class of lease	Total number of leases	Total amount due annually	Paid up leases		No.	Delinquent leases	
			Number	Amount		Year rent	Arrears
Bill board-----	4	\$62. 50	4	\$62. 50	2	\$200. 00	\$400. 00
Bridge-----	16	1, 825. 00	14	1, 625. 00	1	1. 00	1. 00
Gas mains-----	8	297. 00	7	296. 00	1	3, 867. 00	11, 018. 68
Land leases-----	165	11, 452. 26	115	7, 585. 26	50	396. 00	93. 00
Land and house-----	9	1, 060. 00	5	664. 00	4	48. 51	48. 51
Pole line-----	9	1, 090. 93	8	1, 042. 42	1	1, 525. 00	19, 625. 00
Switch track-----	2	800. 00	2	800. 00	2	250. 00	
Water pipe-----	13	3, 971. 66	11	2, 446. 66			
Well lease-----	2	35. 00	2	35. 00			
Miscellaneous-----	1	250. 00	1	250. 00			
Total-----	229	\$20, 844. 35	169	\$14, 806. 84	60	\$6, 037. 51	\$31, 186. 19

I. & M. CANAL
SCHEDULE OF BILLBOARD LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
7-15-13	7-15-37	Illinois Posting Service-----	Sec. 11, Twp. 33, R. 3-----	\$5. 00	7-15-37	None	
9-1-23	9-1-37	Illinois Posting Service-----	Sec. 23, Twp. 33, R. 3-----	5. 00	9-1-37	None	
4-15-24	4-15-38	Illinois Posting Service-----	Sec. 11, Twp. 33, R. 3-----	12. 50	4-15-38	None	
8-1-23	8-1-37	Illinois Posting Service-----	Sec. 11, Twp. 33, R. 3-----	40. 00	8-1-37	None	
		Total-----		\$62. 50			

I. & M. CANAL
SCHEDULE OF BRIDGE LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
4-25-22	4-25-38	A. T. & S. F. Ry. Co.	Sec. 3, Twp. 35, R. 10	\$100.00	4-25-38	None	
1-29-10	1-29-38	Chgo. Junction R. R. Co.	Sec. 36, Twp. 39, R. 13	100.00	1-29-38	None	
3-1-10	3-1-38	Chgo. Retort & Firebrick Co.	Sec. 12, Twp. 33, R. 3	25.00	3-1-38	None	
2-15-25	2-15-45	C. R. I. & P. Ry. Co.	Sec. 3, 10, 9 and 4, Twp. 33, R. 7	350.00	2-15-38	None	
12-8-34	12-8-44	C. R. I. & P. Ry. Co.	Sec. 13, Twp. 33, R. 4	100.00	12-8-37	None	
10-15-33	10-15-37	C. R. I. & P. Ry. Co.	Sec. 10, Twp. 33, R. 3	100.00	10-15-37	None	
5-1-20	5-1-38	C. R. I. & P. Ry. Co.	Sec. 19, Twp. 35, R. 10	100.00	5-1-38	None	
10-6-22	10-6-42	Corn Products Refining Co.	Sec. 23, Twp. 38, R. 12	150.00	10-6-37	None	
7-25-22	7-25-37	Globe Oil & Refining Co.	Sec. 26, Twp. 37, R. 10	100.00	7-25-37	None	
7-1-08	7-1-37	Hll. Steel Co.	Sec. 34, Twp. 36, R. 10	100.00	7-1-37	None	
10-1-34	10-1-37	National Biscuit Co.	Sec. 13, Twp. 33, R. 4	100.00	10-1-37	None	
7-30-18	7-30-37	Northern Ill. Cereal Co.	Sec. 23, Twp. 36, R. 10	100.00	7-30-37	None	Expired
11-10-33	6-30-37	Texas Co.	Sec. 14, Twp. 36, R. 10	100.00	6-30-37	None	
7-30-36	7-30-37	Texas Co.	Sec. 14, Twp. 36, R. 10	100.00	7-30-37	None	
		Total		\$1,625.00			
DELINQUENT							
4-16-18	4-16-37	Hll. Stone Co.	Sec. 21, Twp. 37, R. 11	\$100.00	4-16-34	\$300.00	In hands of receivers
5-2-35	5-2-45	Morris Coal & Mining Co.	Sec. 9, Twp. 33, R. 14	100.00	5-1-37	100.00	
		Total		\$200.00		\$400.00	

I. & M. CANAL
SCHEDULE OF GAS MAIN LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
9-20-34	9-20-44	Public Service Co.	Sec. 7, 33, 4 and 14, Twp. 33, R3	\$100. 00	9-20-37	None	
9-24-34	9-24-44	Public Service Co.	Sec. 23, Twp. 33, R. 5	10. 00	9-24-37	None	
4-17-35	4-17-45	Public Service Co.	Sec. 18, 33, 5 and 3, Twp. 33, R. 4	25. 00	4-17-38	None	
6-1-31	6-1-51	Public Service Co.	Sec. 7, Twp. 33, R. 4 and Sec. 11, Twp. 33, R. 3	100. 00	6-1-38	None	
10-8-04	10-8-37	Public Service Co.	Across hydraulic basin and canal lands, Ottawa, Ill.	50. 00	10-8-37	None	
8-15-36	8-15-56	Public Service Co.	Sec. 14, Twp. 38, R. 12	10. 00	8-15-37	None	
9-24-34	9-24-36	Western United Gas & Electric Co.	Sec. 26, Twp. 36, R. 10	1. 00	9-24-37	None	
				\$296. 00			
DELINQUENT							
10-10-25	10-10-37	Western United Gas and Electric Co.	Sec. 23, Twp. 36, R. 10	\$ 1. 00	10-10-36	\$1. 00	

I. & M. CANAL
SCHEDULE OF LAND LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
10-1-30	10-1-37	Abugelis, A. & Wife	Sec. 12, Twp. 38, R. 12	\$15. 00	10-1-37	None	
1-12-20	1-12-38	Anderson, Mrs. Bertha	Sec. 9, Twp. 33, R. 2	10. 00	1-12-38	None	
1-12-20	1-12-38	Arthur, Wm. and W.	Sec. 9, Twp. 33, R. 2	10. 00	1-12-38	None	
1-2-20	1-2-38	Averill, M. and W.	Sec. 3, Twp. 33, R. 7	10. 00	1-2-38	None	
1-2-35	1-2-38	Averill, M. and W.	Sec. 3, Twp. 33, R. 7	15. 00	1-2-38	None	
1-12-20	1-12-37	Bain, K. G. and W.	Sec. 9, Twp. 33, R. 2	10. 00	1-12-38	None	
8-12-19	8-12-37	Barber, W. H.	Sec. 35, Twp. 39, R. 13	48. 00	8-12-37	None	
5-28-33	5-28-38	Baricobich, M. and W.	Sec. 13, Twp. 38, R. 12	30. 00	5-28-38	None	
1-5-05	1-5-38	Barrows Lock Co.	Sec. 23, Twp. 36, R. 10	15. 00	1-5-38	None	
7-17-36	7-17-37	Bell, Andrew and W.	Sec. 29, Twp. 34, R. 8	15. 00	7-17-37	None	
1-24-22	1-24-38	Bergan, Chas. and W.	Sec. 15, Twp. 37, R. 11	10. 00	1-24-38	None	
1-12-20	1-12-38	Bratney, A. C. and W.	Sec. 9, Twp. 33, R. 2	10. 00	1-12-38	None	
10-19-35	10-19-45	Brown, Ernest G.	Sec. 11, Twp. 33, R. 3	65. 00	10-19-37	None	
9-10-35	9-10-37	Button, Clare and W.	Sec. 3, Twp. 33, R. 7	15. 00	9-10-37	None	
9-15-32	9-15-37	Button, Earl and W.	Sec. 3, Twp. 33, R. 7	15. 00	9-15-37	None	
1-2-20	1-2-38	Button, Floyd and W.	Sec. 3, Twp. 33, R. 7	10. 00	1-2-38	None	
10-19-36	10-19-41	Button, Geo. I. and W.	Sec. 3, Twp. 33, R. 7	15. 00	10-19-37	None	
1-17-37	1-17-42	Carpenter, Clarence and W.	Sec. 9, Twp. 33, R. 2	15. 00	1-17-38	None	
1-1-18	1-1-38	C. B. & Q. R. R.	Ottawa and La Salle	750. 00	1-1-38	None	
4-5-05	4-5-38	C. R. I. & P. R. R.	Sec. 10, Twp. 33, R. 7	25. 00	4-5-38	None	
8-15-22	8-15-37	Coleman Hardware Co.	Sec. 9, Twp. 33, R. 7	25. 00	8-15-37	None	
9-17-30	9-17-37	Cook, C. D. et al.	Sec. 25, Twp. 6, R. 5	15. 00	9-17-37	None	
8-20-35	8-20-37	Cowles, Chas. and W.	Sec. 20, Twp. 37, R. 11	15. 00	8-20-37	None	
1-12-35	1-12-38	Dalton, Chas.	Sec. 9, Twp. 33, R. 2	15. 00	1-12-38	None	
8-20-36	8-20-37	Drews, Emil	Sec. 3, Twp. 33, R. 7	15. 00	8-20-37	None	
7-1-35	7-1-37	Dudek, John	Sec. 35, Twp. 39, R. 13	15. 00	7-1-37	None	
2-10-35	2-10-38	Dudek, Victoria	Sec. 35, Twp. 39, R. 13	15. 00	2-10-38	None	
7-1-35	7-1-37	Dudek, Victoria	Sec. 35, Twp. 39, R. 13	15. 00	7-1-37	None	
8-21-36	8-21-37	Dummit, G. H. and W.	Sec. 9, Twp. 33, R. 7	15. 00	8-21-37	None	
1-12-30	1-12-38	Eastman, John	Sec. 9, Twp. 33, R. 2	10. 00	1-12-38	None	
2-16-34	2-16-38	Findley, John and W.	Sec. 35, Twp. 39, R. 13	30. 00	2-16-38	None	
9-5-31	9-5-37	Fisher, Frank and W.	Sec. 3, Twp. 33, R. 7	15. 00	9-5-37	None	
1-2-20	1-2-38	Garbutt, Wm. and W.	Sec. 3, Twp. 33, R. 7	10. 00	1-2-38	None	
7-1-22	7-1-37	Gedye, Calvin and W.	Sec. 15, Twp. 33, R. 1	10. 00	7-1-37	None	
5-10-24	5-10-38	Gedye, Calvin and W.	Sec. 15, Twp. 33, R. 1	10. 00	5-10-38	None	
9-19-36	9-19-41	Glenn, Robert	Sec. 14, Twp. 38, R. 12	15. 00	9-19-37	None	
10-16-36	10-16-41	Glover, Chas. C. and W.	Sec. 3, Twp. 33, R. 7	15. 00	10-16-37	None	
7-20-36	7-20-37	Glover, Harry and W.	Sec. 3, Twp. 33, R. 7	15. 00	7-20 37	None	
8-18-36	8-18-37	Glover, Maurice and W.	Sec. 3, Twp. 33, R. 7	15. 00	8-18-37	None	
8-1-22	8-1-37	Goode, Thos. E. and W.	Sec. 29, Twp. 34, R. 8	10. 00	8-1-37	None	

I. & M. CANAL
SCHEDULE OF LAND LEASES ON AN ANNUAL BASIS
PAID UP—Continued

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
6-25-34	6-25-38	Granados, Frank and W.	Sec. 10, Twp. 33, R. 3.	\$ 15.00	6-25-38	None	Payable monthly
5-1-33	5-1-38	Great Lakes Dredge & Dock	Sec. 29, Twp. 39, R. 14.	1500.00	11-1-37	None	
4-1-20	4-1-38	Hamre, Alfred and W.	Sec. 3, Twp. 33, R. 7.	10.00	4-1-38	None	
7-15-36	7-15-37	Helland, Theo and W.	Sec. 13, Twp. 38, R. 12.	15.00	7-15-37	None	
5-4-08	5-4-38	Holderman, S. D.	Sec. 9 and 10, Twp. 33, R. 6.	5.00	5-4-38	None	
7-15-32	7-15-37	Hurt, Lawrence and W.	Sec. 13, Twp. 38, R. 12.	22.00	7-15-37	None	
5-1-32	4-30-52	Ill. Iowa Power Co.	Sec. 11, Twp. 33, R. 3.	750.00	6-30-37	None	
4-1-32	4-1-38	Ill. Iowa Power Co.	Sec. 15, Twp. 33, R. 1.	150.00	4-1-38	None	
10-15-24	10-15-37	Jensen, Hans and W.	Sec. 13, Twp. 38, R. 12.	15.00	10-15-37	None	
3-1-37	3-1-42	Jovanoich, Nick and W.	Sec. 12, Twp. 38, R. 12.	15.00	3-1-38	None	
5-1-25	5-1-38	Jovanoich, T. and W.	Sec. 12, Twp. 38, R. 12.	25.00	5-1-38	None	
1-26-33	1-26-38	Jurkoviei, Geo. and W.	Sec. 12, Twp. 38, R. 12.	15.00	1-26-38	None	
7-1-35	7-1-37	Kelley, Irwin and W.	Sec. 3, Twp. 33, R. 7.	10.00	7-1-37	None	
7-1-35	7-1-37	Kelley, John and Wife	Sec. 3, Twp. 33, R. 7.	15.00	7-1-37	None	
2-20-33	2-20-38	Kindlespire, C. and W.	Sec. 10, Twp. 33, R. 7.	15.00	2-20-38	None	
4-4-36	4-4-38	Kindlespire, Geo. and W.	Sec. 10, Twp. 33, R. 7.	15.00	4-4-38	None	
8-1-17	8-1-37	Klebosky, Frank	Sec. 35, Twp. 39, R. 13.	20.00	8-1-37	None	
6-15-37	6-15-42	Klinger, Ottawa and W.	Sec. 20, Twp. 37, R. 11.	15.00	6-15-38	None	
3-1-31	3-1-38	Koleft, John and W.	Sec. 13, Twp. 38, R. 12.	15.00	3-1-38	None	
7-10-36	7-10-37	Lange, Charles	Sec. 22, Twp. 37, R. 11.	15.00	7-10-37	None	
9-25-36	9-25-37	Larson, Josie	Sec. 3, Twp. 33, R. 7.	15.00	9-25-37	None	
7-1-36	7-1-37	Lerette, L. and Wilson L.	Sec. 7, Twp. 33, R. 4.	25.00	7-1-37	None	
7-15-36	7-15-37	Lyttle, R. and Wife	Sec. 32, Twp. 33, R. 7.	15.00	7-15-37	None	
8-24-35	8-24-37	Martinez, Leo	Sec. 20, Twp. 37, R. 11.	10.00	8-24-37	None	
9-19-36	9-19-38	McCloud, W. W. and Wife	Sec. 5, Twp. 34, R. 9.	15.00	9-19-38	None	
5-18-22	5-18-38	McCowan, Roy	Sec. 17, Twp. 34, R. 9.	15.00	5-18-38	None	
12-3-34	12-3-54	MeVey, Wm. J.	Sec. 9, Twp. 35, R. 10.	10.00	12-3-37	None	
1-29-20	1-29-38	Miller, August	Sec. 20, Twp. 37, R. 11.	10.00	1-29-38	None	
7-14-30	7-14-37	Morris Lumber Co.	Sec. 9, Twp. 33, R. 7.	50.00	7-14-37	None	Payable monthly
9-19-36	9-19-41	Mudraek, John and W.	Sec. 13 and 14, Twp. 38, R. 12.	15.00	9-14-37	None	
Verbal Lease		Nat'l. Fireproofing Corp.	Land at Ottawa	852.00	6-30-37	None	
9-1-36	9-1-41	Norris Grain Co.	Sec. 11, Twp. 33, R. 3.	54.26	6-30-37	None	Payable monthly
1-17-26	1-17-38	Olson, Julia	Sec. 32, Twp. 38, R. 12.	15.00	1-17-38	None	
2-7-36	2-7-41	Oscars, Louis	Sec. 11, Twp. 33, R. 3.	50.00	2-7-38	None	
5-1-32	4-30-52	Ottawa, City of	Sec. 11, Twp. 33, R. 3.	750.00	6-30-37	None	
11-1-24	11-1-37	Ottawa Silica Co.	Sec. 9, Twp. 33, R. 3.	10.00	11-1-37	None	
7-8-20	7-8-37	Ottawa, Town of	Sec. 11, Twp. 33, R. 3.	5.00	7-8-37	None	
10-15-27	10-15-37	Palmer, Dana M.	Sec. 11, Twp. 33, R. 3.	30.00	10-15-37	None	
6-5-36	6-5-38	Pankow, Gust and W.	Sec. 12, Twp. 38, R. 12.	15.00	6-5-38	None	

I. & M. CANAL
SCHEDULE OF LAND LEASES ON AN ANNUAL BASIS
PAID UP—Concluded

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
3-15-33	2-15-38	Peterson, M. O. and W.	Sec. 3, Twp. 33, R. 7.	\$ 15.00	3-15-38	None	
1-29-30	1-29-38	Piosecki, Kazmer	Sec. 20, Twp. 37, R. 11.	9.00	1-29-38	None	
1-20-20	1-20-38	Polarek, Martin	Sec. 14, Twp. 37, R. 11.	50.00	1-20-38	None	
1-12-34	1-12-38	Prentice, Harold and W.	Sec. 9, Twp. 33, R. 2.	20.00	1-12-38	None	
10-15-22	10-15-37	Rimmele, R. J.	Sec. 15, Twp. 33, R. 1.	10.00	10-15-37	None	
7-1-28	7-1-37	Rimmele, R. W. and W.	Sec. 15, Twp. 33, R. 1.	15.00	7-1-37	None	
1-17-20	1-17-38	Ring, Mrs. Anna	Sec. 32, Twp. 38, R. 12.	25.00	1-17-38	None	
1-12-31	1-12-38	Ristau, G. and W.	Sec. 9, Twp. 33, R. 2.	15.00	1-12-38	None	
7-16-32	7-16-37	Romac, Sam and W.	Sec. 13, Twp. 38, R. 12.	15.00	7-16-37	None	
5 14-25	5-14-38	Rosenbach, Jake and W.	Sec. 12, Twp. 38, R. 12.	15.00	5-14-38	None	
1-12-20	1-12-38	Russell, A. H. and W.	Sec. 9, Twp. 33, R. 2.	10.00	1-12-38	None	
6-2-23	6-2-43	Schermerhorn and Warren	Sec. 15, Twp. 33, R. 1.	100.00	6-2-38	None	
8-14-35	8-14-37	Schumel, W. and Wife	Sec. 20, Twp. 37, R. 1.	15.00	8-14-37	None	
7-1-22	7-1-37	Schurr, E. S.	Sec. 15, Twp. 33, R. 1.	10.00	7-1-37	None	
2-15-31	2-15-38	Sharp, W. and Wife	Sec. 3, Twp. 33, R. 7.	15.00	2-15-38	None	
12-1-36	12-1-41	Sheldon, James	Sec. 20, Twp. 37, R. 11.	15.00	12-1-37	None	
1-12-20	1-12-38	Smith, R. and Wife	Sec. 9, Twp. 32, R. 2.	10.00	1-12-38	None	
5-18-22	5-18-38	Spicer, W. H.	Sec. 21, Twp. 33, R. 5.	15.00	5-8-38	None	
9-2-24	9-2-37	Stacha, Julius	Sec. 15, Twp. 33, R. 1.	10.00	9-2-37	None	
9-15-32	9-15-37	Stagner, Art and W.	Sec. 12, Twp. 38, R. 12.	15.00	9-15-37	None	
12-1-36	12-1-46	Stein Hall Mfg. Co.	Sec. 29, Twp. 39, R. 14.	400.00	12-1-37	None	
9-25-18	9-25-37	Still, Charles	Sec. 3, Twp. 33, R. 7.	10.00	9-25-37	None	
7-1-26	7-1-37	Tadyeh, E. and Husband	Sec. 15, Twp. 33, R. 1.	15.00	7-1-37	None	
11-19-33	11-19-38	Texas Co.	Sec. 14, Twp. 36, R. 10.	350.00	11-19-37	None	
7-1-22	7-1-37	Timm, John	Sec. 15, Twp. 33, R. 1.	10.00	7-1-37	None	
10-24-36	10-24-41	Thompson, Tom E.	Sec. 3, Twp. 33, R. 7.	15.00	10-24-37	None	
1-10-20	1-10-38	Tomich, M. and W.	Sec. 12, Twp. 38, R. 12.	20.00	1-10-38	None	
7-16-32	7-15-37	Tomich, Philip and W.	Sec. 12, Twp. 38, R. 12.	15.00	7-15-37	None	
8-1-23	8-1-37	Tomlenovec, T. and W.	Sec. 12, Twp. 38, R. 12.	10.00	8-1-38	None	
9-25-3	9-25-37	Torre, Laura	Sec. 3, Twp. 33, R. 7.	30.00	9-25-37	None	
7-1-12	7-1-37	Utica Elevator Co.	Sec. 9, Twp. 33, R. 2.	150.00	7-1-37	None	
6-15-31	6-15-38	Vasquez, Latis	Sec. 13, Twp. 38, R. 12.	15.00	6-15-38	None	
6-10-37	6-10-38	Washington, Al and W.	Sec. 9, Twp. 33, R. 4.	15.00	6-10-38	None	
1-12-20	1-12-38	Watts, C. and Wife	Sec. 9, Twp. 32, R. 2.	10.00	1-12-38	None	
5-22-19	5-22-38	Western Quarries Co.	Sec. 22, Twp. 37, R. 11.	60.00	5-22-38	None	
7-15-35	7-15-37	Zenchuk, Andrew	Sec. 4, Twp. 38, R. 13.	15.00	7-15-37	None	
		Total	-----	\$7,585.26			

I. & M. CANAL
SCHEDULE OF LAND LEASES ON AN ANNUAL BASIS
DELINQUENT

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
6-10-19	6-10-38	Arthur, Harry R.	Sec. 20, Twp. 34, R. 9	\$ 5.00	6-10-37	\$ 5.00	
5-1-29	5-1-38	Bennett, Mrs. Louise	Sec. 11, Twp. 33, R. 3	15.00	5-1-35	50.00	
4-24-31	4-24-38	Bibly, Paul and W.	Sec. 13, Twp. 38, R. 12	15.00	4-24-37	15.00	
4-6-31	4-6-38	Button, Geo. A. and W.	Sec. 3, Twp. 33, R. 7	15.00	4-6-37	15.00	
10-15-28	10-15-37	Byers, Mrs. Anna	Sec. 11, Twp. 33, R. 3	15.00	10-15-34	45.00	
5-1-26	5-1-38	Cavanaugh, Emmet and W.	Sec. 11, Twp. 33, R. 3	15.00	5-1-37	10.00	
7-10-23	7-10-37	Cesak, Ray and W.	Sec. 35, Twp. 39, R. 13	10.00	7-10-33	40.00	
1-12-25	1-12-38	Conover, Mary J.	Sec. 9, Twp. 33, R. 2	10.00	1-12-37	10.00	
2-1-27	2-1-38	Consumers Co.	Sec. 21, Twp. 37, R. 11	100.00	2-1-33	500.00	
5-20-19	5-20-38	DePeale, Agnes	Sec. 7, Twp. 38, R. 13	7.00	5-20-34	28.00	
9-10-26	9-10-37	Hankins, Walter and W.	Sec. 14, Twp. 38, R. 12	15.00	9-1-36	15.00	
5-1-37	5-1-42	Harrington, Dan and W.	Sec. 3, Twp. 33, R. 7	15.00			
5-15-37	5-15-42	Harrington, Fred and W.	Sec. 3, Twp. 33, R. 7	15.00			
8-2-26	8-2-46	Ill. Waterway Barge & Dock Co.	Sec. 30, 31, Twp. 39, R. 14, Sec. 36, Twp. 39, R. 13	2,000.00	8-2-33	8,000.00	
5-23-23	5-23-38	Irrgang, Mrs. Bessie	Sec. 11, Twp. 33, R. 3	10.00	5-23-37	10.00	
5-16-21	5-16-38	James, Henry	Sec. 20, Twp. 34, R. 9	10.00	5-16-32	60.00	Cancelled 9-9-35
1-18-33	9-9-35	Jeffrey, James	Sec. 24, Twp. 34, R. 9	15.00	1-18-34	30.00	
11-15-20	11-15-37	Johnson, Andrew	Sec. 35, Twp. 39, R. 13	10.00	11-15-31	60.00	Payable monthly
6-1-33	6-1-38	Knowles Foundry & Machine Co.	Sec. 11, Twp. 33, R. 3	60.00	11-1-34	160.00	
9-2-24	9-2-37	Knowlton, Mrs. Edna	Sec. 8 and 17, Twp. 34, R. 9	10.00	9-2-34	30.00	
1-15-37	1-15-38	Lerette, Jno. and Wife	Sec. 2, Twp. 33, R. 3	15.00		15.00	
11-24-19	11-24-37	Manley, Thos.	Sec. 9, Twp. 33, R. 2	75.00	11-24-35	140.00	
1-12-27	1-12-38	Manley, W. L.	Sec. 9, Twp. 33, R. 2	15.00	1-1-37	15.00	
4-19-30	4-19-39	Matthiessen & Hegeler Zinc Co.	Sec. 15 and 22, Twp. 33, R. 1	150.00	4-19-36	150.00	3 year period
1-12-27	1-12-38	Meador, James and W.	Sec. 9, Twp. 33, R. 2	15.00	1-12-37	15.00	
6-1-19	6-1-38	McGinnis, Frank	Sec. 35, Twp. 39, R. 13	20.00	6-1-32	120.00	
10-1-28	10-1-37	Miller, Nettie B.	Sec. 11, Twp. 33, R. 3	10.00	10-1-31	60.00	
4-10-28	4-10-38	Mitchell, Wm. and W.	Sec. 3, Twp. 33, R. 7	20.00	1-10-37	25.00	
10-15-27	10-15-35	Momper, Peter	Sec. 29, Twp. 34, R. 8	15.00	10-15-33	30.00	Cancelled 10-15-35
*Verbal Lease		Nat'l. Fireproofing Corp.	Land at Ottawa	852.00	6-30-35	52.68	
7-23-21	7-23-37	Olish, John and W.	Sec. 35, Twp. 39, R. 13	10.00	7-23-33	40.00	
4-5-21	4-5-38	Olish, Jos.	Sec. 35, Twp. 39, R. 13	10.00	4-5-32	60.00	
4-23-32	4-23-38	Przybyl, Mrs. Anna	Sec. 13, Twp. 28, R. 12	15.00	4-23-37	15.00	
3-8-19	3-8-38	Radomski, Walter	Sec. 23, Twp. 37, R. 10	8.00	3-8-32	48.00	
1-18-33	9-9-35	Rick, Henry	Sec. 29, Twp. 34, R. 8	15.00	1-18-34	30.00	Cancelled 9-9-35
7-1-28	7-1-37	Sarwinski, Frank	Sec. 15, Twp. 33, R. 1	15.00	7-1-33	60.00	
6-20-18	6-20-38	Schwager, Dan and W.	Sec. 35, Twp. 39, R. 13	20.00	6-20-32	120.00	

I. & M. CANAL
SCHEDULE OF LAND LEASES ON AN ANNUAL BASIS
DELINQUENTS—Concluded

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
10-1-27	10-1-37	Schwager, Jno.	Sec. 35, Twp. 39, R. 13	15.00	10-1-31	90.00	Cancelled 1-12-36
3-1-22	3-1-38	Smith, Jno. and W.	Sec. 3, Twp. 38, R. 13	30.00	3-1-33	150.00	
2-15-23	2-15-38	Stedman, G. and S. Wagner	Sec. 33, Twp. 35, R. 9	25.00	2-15-33	125.00	
7-1-15	7-1-37	Strong, Mrs. Mary	Sec. 9, Twp. 33, R. 7	5.00	7-1-35	10.00	
1-12-20	1-12-37	Veal, Wm. and W.	Sec. 9, Twp. 33, R. 2	10.00	1-12-36	10.00	
1-18-33	1-18-37	Walker, J. H.	Sec. 29, Twp. 34, R. 8	30.00	1-18-34	120.00	
10-1-22	10-1-36	Warnock, W. and W.	Sec. 35, Twp. 39, R. 13	30.00	10-1-32	150.00	
7-15-25	7-15-37	Wiegand, Jno. and W.	Sec. 20, Twp. 37, R. 11	15.00	7-15-34	45.00	
1-29-20	1-29-38	Wiegand, Rose	Sec. 20, Twp. 37, R. 11	10.00	1-29-34	40.00	
3-8-19	3-8-38	Wietseykoski, Michael	Sec. 25, Twp. 37, R. 11	10.00	3-8-31	70.00	
1-12-37	1-12-42	Williams, E. and W.	Sec. 9, Twp. 33, R. 2	15.00	7-10-37	15.00	
7-10-19	7-10-37	Woock, Clarence	City of Lockport	15.00	7-10-37	15.00	
5-3-19	5-3-38	Zygman, John P.	Sec. 20, Twp. 37, R. 11	10.00	5-3-31	70.00	
Total				\$3,867.00		\$11,018.68	

* \$52.68 due on rent from January 1, 1935, date company went in receivership, to January 23, 1935.

I. & M. CANAL
SCHEDULE OF LAND & HOUSE LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
7-27-22	7-27-37	A. T. & S. F. R. R. Co.	Sec. 36, Twp. 39, R. 13	\$100. 00	7-27-37	None	Payable monthly
3-1-36	3-1-38	Cody, Andrew J.	Lot 10, Blk. 5, Joliet	120. 00	6-30-37	None	Payable monthly
6-1-33	6-1-38	Dickinson, Thos.	Lot 2, Blk. 116 Lockport, Ill.	96. 00	6-30-37	None	Payable monthly
1-1-37	1-1-38	Pray, Geo. and Wife	Sec. 13, Twp. 33, R. 4	48. 00	6-30-37	None	Payable monthly
8-15-36	8-15-41	Scherer, Fred Jr.	Sec. 11, Twp. 33, R. 3	300. 00	6-30-37	None	Payable monthly
			Total	\$664. 00			
DELINQUENT							
6-2-36	6-2-37	Fleming, Shirley	Sec. 14, Twp. 33, R. 2	60. 00	3-3-37	\$15. 00	Payable monthly
5-25-36	5-25-37	McKenzie, Chas. E.	Sec. 13, Twp. 33, R. 1	96. 00	6-20-37	8. 00	Payable monthly
11-20-36	11-20-37	Moore, Arvan and Wife	Sec. 29, Twp. 39, R. 14	120. 00	3-20-37	40. 00	Payable monthly
5-20-36	5-20-37	Murphy, Patrick and Wife	Sec. 29, Twp. 39, R. 14	120. 00	8-20-36	30. 00	Payable monthly
				\$396. 00		\$93. 00	Cancelled 11-5-36

I. & M. CANAL
SCHEDULE OF POLE LINE LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
10-10-25	10-10-37	A. T. & T. Co.	Sec. 31, Twp. 34, R. 4 and Sec. 6, Twp. 33, R. 4	\$10. 00	10-10-37	None	
7-1-33	6-30-38	Ill. Bell Telephone Co.	Between City of LaSalle and E. line of LaSalle County	151. 80	6-30-37	None	Payable monthly
7-1-33	6-30-38	Ill. Bell Telephone Co	Between Ashland Ave. Chi- cago and W. line of Grundy County	299. 28	6-30-37	None	Payable monthly
9-14-32	9-14-52	Ill. Iowa Power Co.	Sec. 11, Twp. 33, R. 3	10. 00	9-14-37	None	
7-9-27	7-9-47	Ill. Iowa Power Co.	Peru to Joliet	176. 67	7-9-37	None	
2-12-35	2-12-45	Ill. Iowa Power Co.	Sec. 11, Twp. 33, R. 3 and Sec. 7, Twp. 33, R. 4	28. 67	2-12-38	None	
7-17-36	7-17-56	Public Service Co.	Jackson St. Joliet to Ashland Ave., Chicago	361. 00	7-17-37	None	
10-10-25	10-10-37	Western Union Telegraph	Sec. 35, Twp. 39, R. 13	5. 00	10-10-37	None	
			Total	\$1,042. 42			

DELINQUENT

5-1-27	5-1-38	Marseilles Telephone Co.	Sec. 13 and 15, Twp. 33, R. 4 and Sec. 18, Twp. 33, R. 5	\$48. 51	5-1-37	\$48. 51	
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I. & M. CANAL
SCHEDULE OF SWITCH TRACK LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.--Twp.--Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
12-5-29 12-5-29	12-5-39 12-5-39	C. B. & Q. R. R. C. R. I. & P. R. R.	Sec. 10 and 11, Twp. 33, R. 3.-- Sec. 10 and 11, Twp. 33, R. 3.--	\$400. 00 400. 00	12-5-37 12-5-37	None None	
Total -----				\$800. 00			

I. & M. CANAL
SCHEDULE OF WATER PIPE LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
7-1-35	7-1-40	American Steel & Wire Co.	Rockdale Mill, Joliet	\$500.00	7-1-37	None	
10-1-03	10-1-37	Chicago Retort & Firebrick	Sec. 12, Twp. 33, R. 3	80.00	10-1-37	None	
7-25-22	7-25-37	Globe Oil & Refining Co.	Sec. 25, 26 and 35, Twp. 37, R. 10	150.00	7-25-37	None	
5-14-25	5-14-43	Commonwealth Edison	Sec. 35, Twp. 37, R. 13	25.00	5-14-38	None	
7-1-35	7-1-40	Ill. Iowa Power Co.	LaSalle, Ill.	91.66	7-1-37	None	
8-1-17	8-1-37	King & Hamilton Co.	Ottawa, Ill.	40.00	8-1-37	None	
Verbal Lease		LaSalle, City of	LaSalle, Ill.	25.00	1-1-38	None	
1-1-18	1-1-38	Morris Paper Mills	Sec. 3, Twp. 33, R. 7	945.00	1-1-38	None	
8-1-17	8-1-37	Ottawa Silica Co.	Sec. 10, Twp. 33, R. 3	555.00	8-1-37	None	
9-19-36	9-19-46	Ottawa Silica Co.	Sec. 10, Twp. 33, R. 3	25.00	9-19-37	None	
7-17-36	10-1-36	Zourkas, Geo.	Morris, Ill.	10.00	10-1-36	None	
		Total		\$2,446.66			

DELINQUENT

9-18-18	9-18-37	Adler, J. C. & Co.	Blk. 18, W. Joliet	25.00	9-28-32	\$125.00	
5-24-22	5-24-42	Breit, Fred D.	Sec. 29, Twp. 34, R. 4	1,500.00	5-24-25	19,500.00	
		Total		\$1,525.00		\$19,625.00	

I. & M. CANAL
SCHEDULE OF WELL LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
3-18-24 1-1-11	3-18-44 1-1-38	Joliet, City of LaSalle, City of	Sec. 16, Twp. 35, R. 10	\$10. 00	3-18-38 1-1-38	-----	
			Sec. 14, Twp. 33, R. 1	25. 00		-----	
			Total	\$35. 00		-----	

I. & M. CANAL
SCHEDULE OF MISCELLANEOUS LEASES ON AN ANNUAL BASIS
PAID UP

Date of execution	Date of expiration	Name	Description Sec.—Twp.—Range	Annual rental rate	Date paid to	Amount in arrears	Remarks
1-1-37	4-1-37	Frazier-Davis Construction Co. and G. L. Tarlton, Contractor, Inc.	Sec. 30, Twp. 39, R. 14	\$250. 00	4-1-37	-----	

BUREAU OF AUDITS AND ACCOUNTS

G. W. FLATTERY, *Chief Clerk.*

Source of various appropriations to the Division of Waterways for the biennium July 1, 1935 to June 30, 1937.

General Revenue.

Waterway General.

Flood Relief and Rivers and Lakes Control

Flood Relief Illinois River Valley S. B. 566 was appropriated contingent on refunds from the Federal Government of unexpended balances of various flood relief projects.

Waterway Construction Fund—Part of the \$20,000,000.00 bond issue for the deep waterway.

Illinois and Michigan Canal Funds are derived from the rentals of Illinois and Michigan Canal lands.

Statement of Division of Waterway collections deposited to the credit of the various funds during the biennium July 1, 1935 to June 30, 1937.

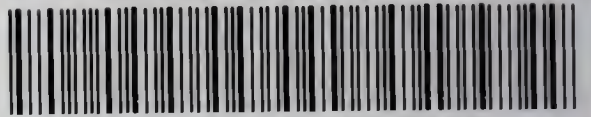
STATEMENT OF DIVISION OF WATERWAY COLLECTIONS DEPOSITED TO THE CREDIT OF THE VARIOUS FUNDS DURING THE BIENNIUM JULY 1, 1935 TO JUNE 30, 1937.

Collections	July 1, 1935 to June 30, 1936	July 1, 1936 to June 30, 1937	Total collections July 1, 1935 to June 30, 1937
Illinois and Michigan Canal fund	\$17, 173. 12	\$16, 006. 80	\$33, 179. 92
Flood relief refund from Federal Government	24, 516. 28	986. 66	25, 502. 94
General revenue fund	404. 75	1, 398. 01	1, 802. 76
Waterway fund	40. 25	531. 27	571. 52
Water terminal fund	180. 00	180. 00
Total	\$42, 314. 40	\$18, 922. 74	\$61, 237. 14

STATEMENT OF DIVISION OF WATERWAY EXPENDITURES DURING THE BIENNIUM
JULY 1, 1935 TO JUNE 30 1937 AND THE UNEXPENDED BALANCE JUNE 30, 1937.
FINANCIAL REPORT * DIVISION OF WATERWAYS

	Appropriation July 1, 1935 to June 30, 1937	Expended July 1, 1935 to June 30, 1936	Expended July 1, 1936 to June 30, 1937	Total expended for biennium ending June 30, 1937	Unexpended balance June 30, 1937
<i>Waterway General</i>					
Office expense-----	\$10,000.00	\$3,340.47	\$3,182.77	\$6,523.24	\$3,476.76
Travel expense-----	10,000.00	3,229.08	5,223.91	8,452.99	1,547.01
Repairs and equipment-----	500.00	156.67	265.32	421.99	78.01
Engineering service and expenses-----	35,000.00	17,150.00	17,820.00	34,970.00	30.00
Survey and investigations-----	30,000.00	13,263.26	16,279.87	29,543.13	456.87
Prevention of obstructions-----	32,000.00	11,812.24	14,912.71	26,724.95	5,275.05
Maintenance of navigation and structures--Illinois rivers-----	275,000.00	100,918.66	165,044.85	265,963.51	9,036.49
<i>Flood Relief</i>					
Flood relief and rivers and lakes control-----	500,000.00	76,619.27	279,240.43	355,859.70	144,140.30
Flood relief Illinois River valley S. B. 566-----	46,256.83	34,000.00	-----	34,000.00	12,256.83
Waterway construction fund-----	75,000.00	2,111.78	-----	2,111.78	72,888.22
Illinois and Michigan Canal fund-----	50,000.00	27,503.07	21,028.55	48,531.62	1,468.38
Total-----	\$1,063,756.83	\$290,140.50	\$522,998.41	\$813,102.91	\$250,653.92

UNIVERSITY OF ILLINOIS-URBANA



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